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U.S. Surgeon General's Office
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REPORT

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OF THE

SURGEON-GENERAL OF THE U.S. ARMY

TO THE

SECRETARY OF WAR

FOR ~~THE~~

1886/87 ^ 1890/91

FISCAL YEAR ENDING JUNE 30, 1887.

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REPORT

OF

THE SURGEON-GENERAL.

SURGEON-GENERAL'S OFFICE,
Washington, D. C., October 10, 1887.

SIR: I have the honor to submit herewith a statement of expenditures made during the fiscal year ended June 30, 1887, from the appropriation made by act of Congress approved May 28, 1886, for the expenses of the Medical Department of the Army, and the balance on hand at the close of said fiscal year, viz:

Medical and Hospital Department, 1887.

Appropriated by act approved May 28, 1886		$200,000.00
Refunded during the year:		
By Army and Navy Hospital, Hot Springs, Ark., for supplies furnished	$4,163.13	
By U. S. Military Prison, Fort Leavenworth, Kans., for supplies furnished	303.34	
By Army Medical Museum, for supplies furnished	418.75	
By Quartermaster's Department, for veterinary medicines furnished	3,667.78	
On account of supplies lost	4.00	
		8,557.00
Total to be accounted for		208,557.00
Disbursed to June 30, 1887:		
For medical and hospital supplies	58,949.35	
For expenses of purveying depots	4,236.32	
For pay of employés, viz:		
Medical purveying depot, New York, N. Y. $12,049.82		
Medical purveying depot, Saint Louis, Mo 12,639.96		
Medical purveying depot, San Francisco 6,317.46		
Office medical director Division of the Atlantic 1,800.00		
U. S. Army Dispensary, Washington, D. C. 3,000.00		
	35,807.24	
For advertising	393.50	
For medical attendance, medicines, nursing, etc	4,282.93	
For miscellaneous expenses	761.96	
		104,431.30
Balance to be accounted for July 1, 1887		104,125.70
As follows:		
Balance in U. S. Treasury	55,831.28	
In hands of disbursing officers	48,294.42	
		104,125.70

Nearly all the balance remaining on hand at the close of the fiscal year has already been, or will be, expended in the payment for supplies contracted for and other obligations incurred prior to July 1, 1887.

The money value of the medical and hospital supplies actually issued during the fiscal year ended June 30, 1887, was $159,366.95, and the cost of the supplies required for issue during the current fiscal year will undoubtedly exceed that amount. I base the estimate of the probable cost of the medical and hospital supplies which will be required for issue during the present fiscal year on the fact that the average money value of medical supplies issued annually during the fiscal years July 1, 1876, to June 30, 1887, was approximately $177,515.78, exclusive of all other expenses.

In this connection I respectfully invite your attention to my estimate of appropriations required by the Medical Department of the Army for the service of the fiscal year ending June 30, 1889, submitted to you on the 15th ultimo, as follows:

For the purchase of medical and hospital supplies, including disinfectants for general post sanitation, expenses of purveying depots, pay of employés, medical care and treatment of officers and enlisted men of the Army on duty at posts and stations, for which no other provision is made; for the proper care and treatment of cases in the Army suffering from contagious or epidemic diseases; advertising, and other miscellaneous expenses of the Medical Department (the amount to be expended for pay of employés not to exceed $38,000), $220,000.

For medical and hospital supplies for the Army and Navy Hospital at Hot Springs, Ark., $4,000.

The estimated amounts will, it is believed, be necessary to meet the wants of the Medical Department for the purposes stated for the ensuing fiscal year. It becomes necessary from time to time to add to the standard supply table new remedies, new instruments, and new standard medical books, and provide them for use by medical officers of the Army in the proper diagnosis and treatment of disease.

The limited number of contract surgeons allowed by law necessitates the employment of private physicians, under existing regulations, to furnish medical attendance to officers and enlisted men at stations where there is no medical officer of the Army. These physicians are paid by the visit from the "medical and hospital appropriation." Added to this is the necessary expenditure for the employment of skilled nurses for the proper care and treatment of cases of epidemic and contagious diseases.

I respectfully recommend, as specified in estimate submitted, that the limit of amount of the appropriation to be expended for the pay of employés of the Medical Department be increased to at least $38,000.

I have the honor to renew my recommendation made in my last annual report that, in order to facilitate the purchase and delivery of medical and hospital supplies, and for the best interests of the service with a view to economy, Congress be requested to grant authority in the purchase of medical and hospital supplies which cost less than $500 to make such purchases, after due advertisement for bids, without entering into a formal written contract. In many instances a strict compliance with the letter of the law and existing regulations in preparing the formal executory contracts, five copies of which are required, entails an expense to the Government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the law relating to purchases of Government supplies.

Medical and Hospital Department, 1886.

Balance on hand July 1, 1886		$127,176.35
Refunded during the year		458.82
Total to be accounted for		127,635.17
Disbursed during the year:		
For medical and hospital supplies	$79,670.96	
For expenses of purveying depots	1,356.48	
For pay of employés	316.66	
For medical attendance, medicines, etc	2,230.65	
For miscellaneous expenses	115.79	
		83,690.54
Balance to be accounted for July 1, 1887		43,944.63
As follows:		
Balance in U. S. Treasury	24,415.82	
In hands of disbursing officers	19,528.81	
		43,944.63

Medical and Hospital Department, 1885.

Balance on hand July 1, 1886		$13,275.07
Disbursed during the year	$135.15	
Transferred to surplus fund	13,139.92	
		13,275.07

Medical and Hospital Department, 1883 *and prior years* (*reappropriated*).

Appropriated by act approved August 4, 1886	$486.62
Disbursed during the year	486.62

Medical and Hospital Department, 1882.

Balance on hand July 1, 1886	$452.00
Balance to be accounted for July 1, 1887	452.00

Signal Service, Medical Department, 1887.

Appropriated by act approved August 4, 1886	$2,000.00
Disbursed during the year	1,655.53
Balance to be accounted for July 1, 1887	344.47

Signal Service, Medical Department, 1886.

Balance on hand July 1, 1886, viz:		
For medical attendance and medicines		$3,243.90
For medical attendance and medicines for officers of the Army doing duty in connection with the Signal Service		100.00
For medical and hospital supplies at Fort Myer, Va		183.55
For work and supplies at Fort Myer, Va		.13
For medical and hospital supplies to officers and enlisted men of the Signal Corps from U. S. Army purveying depots and dispensaries		1,000.00
Total to be accounted for		4,527.58
Disbursed during the year:		
For medical attendance and medicines	$744.05	
For medical and hospital supplies at Fort Myer, Va.	3.75	
For medical and hospital supplies to officers and enlisted men from purveying depots and dispensaries	360.96	
		1,108.76
Balance to be accounted for July 1, 1887		3,418.82

Signal Service, Medical Department, 1885.

Balance on hand July 1, 1886, viz:		
For medical attendance and medicines		$2,973.06
For medical attendance and medicines for officers doing duty in connection with the Signal Service		97.15
For medical and hospital supplies for Fort Myer, Va		42.06
For material for repair of hospital at Fort Myer, Va		.04
For medicines to officers and enlisted men of the Signal Corps from U. S. Army purveying depots and dispensaries		524.26
Total to be accounted for		3,636.57
Transferred to surplus fund		3,636.57

Artificial limbs, 1884 *and prior years.*

Balance from previous fiscal year		$1,443.20
War warrant, under section 5 of the act of March 3, 1875		92.48
Total to be accounted for		1,535.68
Disbursed during the year	$92.48	
Carried to the surplus fund	1,443.20	
		1,535.68

Artificial limbs, 1885.

Balance from previous fiscal year		$2,602.51
Disbursed during the year	$18.15	
Carried to the surplus fund	1,743.38	
		1,761.53
Balance remaining June 30, 1887		840.98

Artificial limbs, 1886.

Balance from previous fiscal year	$99,995.93
Disbursed during the year	16,307.89
Balance remaining June 30, 1887	83,688.04

Artificial limbs, 1887.

Appropriated by act of August 4, 1886	$200,000.00
Disbursed during the year	92,306.75
Balance remaining June 30, 1887	107,693.25

Appliances for disabled soldiers, 1885.

Balance from previous fiscal year	$1,697.50
Carried to the surplus fund	1,697.50

Appliances for disabled soldiers, 1886.

Balance from previous fiscal year	$1,658.50
Disbursed during the year	10.00
Balance remaining June 30, 1887	1,648.50

Appliances for disabled soldiers, 1887.

Appropriated by act of August 4, 1886	$2,000.00
Disbursed during the year	643.00
Balance remaining June 30, 1887	1,357.00

Medical and Surgical History.

Balance from previous fiscal year	$8,565.22
Disbursed during the year	4,311.00
Balance remaining June 30, 1887	4,254.22

Museum and library, 1886.

Balance from previous fiscal year	$2,439.70
Disbursed during the year	2,439.70

Army Medical Museum, 1887.

Appropriated by act of June 30, 1886	$5,000.00
Disbursed during the year	4,309,50
Balance remaining June 30, 1887	690.50

Library of the Surgeon-General's Office, 1887.

Appropriated by act of June 30, 1886	$10,000.00
Disbursed during the year	9,675.63
Balance remaining, June 30, 1887	324.37

Maintenance of Army and Navy Hospital at Hot Springs, Ark., 1887: Expended for pay of civilian employés from September 1, 1886, to June 30, 1887	$6,086.48
Amount expended in furnishing trusses under sections 1176, 1177, 1178, Revised Statutes	5,061.98

There were furnished during the year:

In kind:	
Trusses	878
Artificial legs	103
Artificial foot	1
Artificial arms	3
By commutation:	
Artificial legs	301
Artificial feet	13
Artificial arms	390
Artificial hands	6
Apparatus for legs	343
Apparatus for arms	517

HEALTH OF THE ARMY FOR THE CALENDAR YEAR ENDING DECEMBER 31, 1886.

On account of its small size, and the nature of the service which it is called upon to perform, the Army of the United States is broken up into small commands, which are scattered over a vast territory comprising regions differing widely in physical features and climatic conditions. In studying the influence exerted upon the health of the troops by peculiarities of elevation, temperature, rain-fall, drainage, etc., it is necessary that the country shall be divided into regions, each of which shall be characterized by physical features and climatic conditions distinct from all others, but uniform, or nearly so, throughout its own area. That division which seems most nearly to meet these requirements, and to be the best adapted to the purposes of this report, is a modification of one made by Mr. Henry Gannett, of the U. S. Geological Survey, and used in the compilation of the mortality and vital statistics of the Tenth Census, and is shown in the accompanying map. The regions are eleven in number, as follows: The Atlantic Coast, Eastern Timbered Plains and Hills, Appalachian, Northern Lakes, Central Timbered Plains and Hills, Alluvial, Gulf Coast, Prairies, Great Plains, Cordilleras, and Pacific Coast.

On account of the great extent, north and south, of some of these regions, they have, for purposes of comparison, been subdivided into groups of posts.

During the year 1886 no troops were stationed in the Alluvial region, which comprises only the swamp lands of the Mississippi and Red River valleys, and consequently no mention is made of it in the succeeding pages of this report.

Under the head of each region is given a brief description of its distinctive features, and a table showing the military stations within its limits, together with the mean strength of command, admissions to sick report, number constantly non-effective, deaths, and discharges for disability for each station, followed by a general consideration of the subject of the health of the troops serving in the region during the year. Following this are given the principal facts in relation to the health of the whole Army; the surgical record for the year; vaccinations; the health of colored troops, of Indian scouts, and of civilian attachés; marriages and births at military stations; the special reports of medical officers; and the hygiene of the Army.

Region of the Atlantic Coast.

This region comprises only a narrow strip of territory along the Atlantic sea-board, lying between the ocean and the region of Eastern Timbered Plains and Hills. In the northern portion the surface is mainly undulating and hilly, and presents substantially the same features as the region on its west. Along the coast of New Jersey, Delaware, Maryland, and Virginia, the ground is low, sandy, and, in places, marshy. From Virginia southward a large proportion of the area is

PACIFIC COAST
CORDILLERAS
GREAT PLAIN
PRAIRIES
CENTRAL TIMBERED AND HILLS
PLAINS
NORTHERN
ROCKIES
APPALACHIAN
EASTERN TIMBERED AND HILLS
PLAINS
ATLANTIC COAST

swampy, and differs but little in general characteristics from the coast swamps which border the Gulf of Mexico.

Two or more subdivisions of this region might properly be made, but, as all but two of the fourteen posts in the whole area, from which reports of medical officers were received during the year, are situated in the northern part, and are subjected to practically the same climatic conditions, it has not been thought advisable to arrange them in groups, as has been done in other regions, in different portions of which very dissimilar conditions prevail.

The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall, reported from stations in this region during the year:

	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Region of the Atlantic Coast	92	7	15	58.7	77	49.17

The following table shows the stations in the region of the Atlantic Coast, with mean strength of command, ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.				
Fort Preble, Me	40	38	13	51	1,275	.97	2	.....
Fort Warren, Mass	76	68	25	93	1,224	3.27	5	1
Watertown Arsenal, Mass	32	33	1	34	1,062	1.24	.....	1
Fort Adams, R. I	232	167	49	216	931	6.70	7	2
Fort Trumbull, Conn	72	42	9	51	708	1.43	2	1
Fort Columbus, N. Y	153	117	16	133	869	3.13	5	3
Fort Schuyler, N. Y	72	68	23	91	1,264	3.03	2	2
Fort Hamilton, N. Y	182	136	38	174	956	3.32	2	1
Fort Wadsworth, N. Y	42	46	12	58	1,381	2.16	2	.....
David's Island, N. Y	506	778	99	877	1,733	27.69	8	4
Willets Point, N. Y	383	632	155	787	2,055	22.47	5	4
New York City, N. Y	62	3	3	6	97	1.64	.....	.....
Fort Monroe, Va	255	307	35	342	1,341	11.16	12	1
St. Francis Barracks, Fla	103	164	36	200	1,942	4.54	4	4
Field	15	2	3	5	333	.10	.....	.....
Total	2,225	2,601	517	3,118	1,401	92.84	56	24

The force serving in this region during the year consisted of 27 companies of artillery, the battalion of engineers, 2 detachments of ordnance, and the general service recruits at David's Island, N. Y.

The mean strength, including officers, was 2,225 men, of whom 2,194 were white and 31 colored (of African descent). The total number of admissions to sick report was 3,118; of this number 1,620 were treated in quarters, 1,493 in hospital, and 5 in the field. The number of men daily non-effective on account of sickness averaged, in quarters, 33; in hospital, 60; total, 93. The discharges for disability numbered, from quarters, 22; hospital, 34; total, 56; and the deaths, in quarters, 15; hospital, 9; total, 24.

The admission rate per 1,000 of mean strength was 1,401 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 671. The ratio of deaths per 1,000 of mean strength was 11, in the proportion of 4 in hospital and 7 in quarters; that of discharges for disability was 25, in the proportion of 15 from hospital and 10 from quarters; and that of constant non-effectiveness on account of sickness was 42, in the proportion of 27 in hospital and 15 in quarters.

The average duration of each case of sickness was, for those treated in hospital, 15 days; in quarters, 7 days; in the field, 7 days; for all cases treated, 11 days; and the total loss of time on account of sickness averaged 15 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 59 days, and for those who died 27 days, in each case. The ratio of recoveries per 1,000 of all admissions to sick report was 963, of discharges for disability 18, and deaths 8.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in the region.
	Admissions.	Deaths.	Discharges.	
Injuries	517	10	3	1
Diseases of the respiratory system	410	3	7	2
Diseases of the digestive system	409	.....	8	3
Diarrhœal diseases	312	.....	2	4
Diseases of the integumentary system	228	.....	2	5
Venereal diseases	196	.....	6	6
Diseases of the locomotor system	180	.....	3	7
Malarial diseases	155	1	.....	8
Dietic diseases	152	.....	1	9
Zoögenous diseases	152	.....	.....	10
Diseases of the nervous system	144	1	4	11
Constitutional diseases	83	3	7	12
Diseases of the eye	35	.....	2	13
Diseases of the ear	22	.....	1	14
Diseases of the reproductive system	18	.....	1	15
Specific febrile and acute infectious diseases	17	2	.....	16
Diseases of the lymphatic system	14	.....	.....	17
Diseases of the urinary system	13	2	2	18
Diseases of the circulatory system	12	1	3	19
Parasitic disease	7	.....	.....	20
Septic diseases	3	1	.....	21
Diseases of the nose	1	.....	.....	22
Developmental diseases	.....	.....	2	
Unclassified	38	.....	2	
Total deaths	.....	24	.....	
Total discharges	.....	.....	56	
Total cases	3,118	.....	.....	

SPECIAL DISEASES.—For *pneumonia* the admission rate was 4.94 per 1,000 of mean strength; for *bronchitis* it was 30.56; for *catarrh and common colds*, 134.38; for *articular rheumatism*, 28.31; for *muscular rheumatism*, 69.66; for *diarrhœa (acute and chronic)*, 124.49; for *dysentery (acute and chronic)*, 5.84; for *paroxysmal (malarial) fevers*, 69.66; for *typhoid fever*, 3.15; for *pulmonary phthisis*, 6.74.

Of the class of *specific febrile and acute infectious diseases*, 17 admissions to sick report, or a rate of 7.64 per 1,000 of mean strength, were

reported in the region during the year; none of these cases occurred among the colored troops.

Typhoid fever caused 7 admissions to sick report, 4 of which occurred at Fort Monroe, Va., and 3 at St. Francis Barracks (Saint Augustine), Fla. Two deaths from this disease were reported, both from the latter station.

Measles caused 4 admissions, 2 at St Francis Barracks, Fla., and 1 each at Fort Preble, Me., and Willets Point, N. Y.; *mumps* 4, at Willets Point; *whooping cough* 1, at Fort Adams, R. I.; and *dengue* 1, at St. Francis Barracks.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Atlantic Coast during the year comprised the months of June, July, and August, when the constant non-effective rate averaged 45 per 1,000 of mean strength. The principal causes of this non-effectiveness were, in the order of their relative importance, injuries, venereal diseases and alcoholism, malarial fevers, and diarrhœal diseases.

July showed a greater number of admissions to sick report than any other month of the year, its rate being 152 per 1,000 of mean strength; during the same month, also, the constant non-effective rate was 48 per 1,000, the highest of the year. The greatest number of deaths in any one month was 6, also reported for July.

The period of *least sickness* appears to have been during the months of September and October, the constant non-effective rate for this period being 35 per 1,000 of mean strength.

In the above computations all cases of disease or injury have been included; but if, in order to obtain figures which will show the relative healthfulness of different localities, or of the same locality at different seasons, cases of injury, venereal disease and alcoholism are excluded from the calculation, it is found that, while the period of greatest sickness remains unchanged, the prevailing causes of sickness during the period were malarial fevers, diarrhœal diseases, and diseases of the integumentary system; and that the constant non-effective rate was 33 per 1,000 of mean strength, that for the whole year being 29.

Excluding the class of cases mentioned above, the period of least sickness comprised the months of September, October, and November, the constant non-effective rate being 25 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Willets Point, N. Y.*, furnished the highest admission rate for the year, 2,055 per 1,000 of mean strength; also the highest constant non-effective rate, 59 per 1,000. *St. Francis Barracks, Fla.*, gave the highest death-rate, 39 per 1,000 of mean strength.

CIVILIANS WITH COMMAND.—With a mean strength of 2,225 officers and enlisted men serving in the region of the Atlantic Coast, there was constantly present during the year an average of 1,911 civilians, comprising the families of officers and enlisted men, servants, civilian employés, etc. Of this number 292 were adult males; 728 adult females, and 891 children. The admissions to sick report numbered for the adult males 90, and the deaths 2; for the adult females 432, and the deaths 8; for the children 444, and the deaths 8; or an aggregate of 966 admissions and 15 deaths.

The period of *greatest sickness* among the civilian attachés comprised the month of March, the prevailing diseases being those of the digestive system, malarial diseases, and catarrhal affections.

The *least sickness* among civilians was reported during the month of October.

Region of Eastern Timbered Plains and Hills.

This region, lying between the Atlantic Coast region on the east and the Appalachian Mountain region on the west, extends from the northern boundary of Maine to the coast swamps of the Gulf of Mexico. In Alabama, below the southern terminus of the Appalachian system, it meets, and is continuous with, the region of Central Timbered Plains and Hills. It comprises areas differing considerably in temperature, rain-fall, and elevation, but is uniform in the fact that it is quite universally covered with forests except where they have been cut away by the hands of man, and that it nowhere presents any high degree of relief. The New England part of the region is somewhat hilly, and, excepting in northern Maine, is largely cleared. In the southern Atlantic States it constitutes the Atlantic plain, which, near the mountains, contains some outlying hills of the Blue Ridge, while eastward it slopes very gradually and uniformly toward the sea.

Of the 10 military stations in this area, 9 have elevations ranging from 36 to 600 feet; and 1, Camp Hancock, Georgia, is 1,129 feet above the level of the sea. The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall reported from these posts during the year:

	Temperature (degees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Region of Eastern Timbered Plains and Hills	95	—1	17	56.3	73	51.74

The following table shows the stations in the region of Eastern Timbered Plains and Hills, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.				
Kennebec Arsenal, Me	17	42	8	50	2,941	.78	1	.....
Springfield Armory, Mass	46	71	8	79	1,717	.95	.....	.....
West Point, N. Y	332	343	64	407	1,226	9.25	2	2
Frankford Arsenal, Pa	36	22	6	28	778	.87	.....	.....
Philadelphia, Pa	19	.....	.....	.....	.....	.05	.....	.....
Fort McHenry, Md	110	114	15	129	1,173	3.29	2	3
Fort Myer, Va	44	84	22	106	2,409	.78	.....	.....
Washington B'ks, D. C	268	423	65	488	1,821	11.33	12	1
Augusta Arsenal, Ga	24	28	2	30	1,250	.37	.....	.....
Camp Hancock, Ga	20	19	3	22	1,100	.55	1	.....
Total	916	1,146	193	1,339	1,462	28.22	18	6

The force serving in this region during the year consisted of portions of two regiments of artillery, one company of the engineer battalion, and detachments of ordnance, of the signal corps, and of unassigned artillery and cavalry at West Point, N. Y.

The mean strength, including officers, was 916 men. The total number of admissions to sick report was 1,339; of this number, 993 were

treated in quarters, and 346 in hospital. The number of men daily non-effective on account of sickness averaged, in quarters, 13; in hospital, 15; total, 28. The discharges for disability numbered, from quarters, 5; from hospital, 13; total, 18; and the deaths, in quarters, 5; in hospital, 1; total, 6.

The admission rate per 1,000 of mean strength was 1,462 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 378. The ratio of deaths per 1,000 of mean strength was 7, in the proportion of 6 in quarters and 1 in hospital; that of discharges for disability was 20, in the proportion of 6 from quarters and 14 from hospital; and that of constant non-effectiveness was 31, in the proportion of 17 in quarters and 14 in hospital.

The average duration of each case of sickness was, for those treated in quarters, 5 days; in hospital, 16 days; for all cases treated, 8 days; and the total loss of time on account of sickness averaged 11 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 6 days, for those who were discharged for disability 72 days, and for those who died 66 days. The ratio of recoveries per 1,000 of all admissions to sick report was 965, of discharges for disability 13, and of deaths 4.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in the region.
	Admissions.	Deaths.	Discharges.	
Diseases of the respiratory system	262	1	3	1
Injuries	193	3	.....	2
Malarial diseases	187	.....	.....	3
Diseases of the digestive system	158	.....	1	4
Diarrhœal diseases	143	.....	1	5
Venereal diseases	72	.....	5	6
Diseases of the nervous system	64	.....	3	7
Diseases of the integumentary system	63	.....	.....	8
Constitutional diseases	56	1	1	9
Diseases of the locomotor system	48	.....	1	10
Dietic diseases	27	.....	.....	11
Diseases of the eye	15	.....	2	12
Diseases of the reproductive system	12	.....	.....	13
Specific febrile and acute infectious diseases	9	.....	.....	14
Diseases of the urinary system	8	.....	.....	15
Diseases of the circulatory system	5	1	.....	16
Zoögenous diseases	4	.....	.....	17
Diseases of the lymphatic system	4	.....	.....	18
Diseases of the ear	2	.....	.....	19
Septic diseases	1	.....	.....	20
Parasitic diseases	1	.....	.....	21
Diseases of the nose	1	.....	.....	22
Developmental diseases	.....	.....	1	
Unclassified	4	.....	.....	
Total deaths	.....	6	.....	
Total discharges	.....	.....	18	
Total cases	1,339	.....	.....	

SPECIAL DISEASES.—For *pneumonia* the admission rate was 2.18 per 1,000 of mean strength; for *pulmonary phthisis*, 3.28; for *bronchitis*, 88.43; for *catarrh and common colds*, 171.40; for *articular rheumatism*, 60.04; for *muscular rheumatism*, 41.48; for *diarrhœa (acute and chronic)*, 145.20; for *dysentery*, 0; for *cholera morbus*, 10.92; for *paroxysmal (malarial) fevers*, 204.15, and for *typhoid fever*, 8.73.

Of the class of *specific febrile and acute infectious diseases* 9 admissions to sick report, or a rate of 9.83 per 1,000 of mean strength, were reported in the whole region during the year.

Typhoid fever caused 8 admissions, 7 of which occurred at West Point, N. Y., and 1 at Washington Barracks, D. C. No deaths were reported from this cause.

Concerning the prevalence of typhoid fever in the cavalry detachment at West Point, N. Y., Surgeon J. P. Kimball, in July, says:

> One case of typhoid fever was reported taken sick last month, and three more have been taken sick this month, all from the detachment of cavalry, U. S. Military Academy. There have been in the command nine cases of typhoid fever since July 5, 1885: eight of these have occurred in the detachment of cavalry and one in the detachment of artillery. Repeated and most careful examinations of the barracks and their surroundings, water supply and drainage, have been made without discovering any unsanitary condition or source of infection. Three of the four cases now under treatment are men who do not live in the barracks, and their surroundings may be passed over in searching for the source of the disease. As eight of the nine cases have occurred in the cavalry detachment, which numbers not quite one-fourth of the enlisted men of the command (cavalry detachment, 70; total strength, 291), it appears reasonably certain that the men of this detachment are especially exposed to the typhoid poison in some manner not in common with the others. The special duty of the cavalry detachment differing from that of the other enlisted men at the post consists in the stable duty. The cavalry stables are situated nearly half a mile from the barracks and are seldom visited by any one except cavalrymen. Close by the stables is a spring of clear, cool, sparkling water, from which the men are in the habit of drinking freely. This spring is on the hill-side below the plain, on which stands the cadet barracks, officers' quarters, and other buildings of the Academy, and some portion of the drainage of this plain doubtless finds its way into it. I am unable to suggest any more probable source of contamination of its waters by the typhoid poison than the supposition that, by some of the cases of typhoid fever which have occurred in the past, some of the cesspools (now closed) may have become infected, and that the poison from them has at length found its way into the sources of the spring. The one case of typhoid fever occurring in the artillery detachment is corroborative, rather than otherwise, of the supposition that this spring may be the source of infection, since the patient in this case was engaged on duty which brought him frequently near the cavalry stables, and he states that he was in the habit of drinking daily at the spring in question. Until some further light can be thrown on the origin of these cases of fever, I would respectfully recommend that the use of this water for drinking be discontinued.

One case of *measles* was reported to have occurred in the command at Fort McHenry, Md., in July.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of Eastern Timbered Plains and Hills during the year comprised the months of July, August, and September. During this period the number constantly non-effective on account of sickness averaged 35 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, malarial fevers, venereal diseases and alcoholism, and typhoid fever. The rate of constant non-effectiveness for the year was 31 per 1,000 of mean strength.

August and September were the months which showed the greatest number of admissions to sick report during the year, the rates per 1,000 of mean strength being 148 for each. The number constantly non-effective on account of sickness was greatest in September, the ratio per 1,000 of mean strength being 39. The greatest number of deaths

occurred in January and February, 2 having been reported for each month.

The period of *least sickness* appears to have been during the months of April, May, and June, the constant non-effective rate being 24 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that while the period of greatest sickness remains the same, the principal causes of disability are malarial fevers, typhoid fever, integumentary diseases, and articular rheumatism, in the order of their relative importance. The constant non-effective rate for this period was 28, and for the year (still excluding the above-mentioned diseases), 21 per 1,000 of mean strength.

According to this calculation the period of least sickness, as before, comprised the months of April, May, and June, but the constant non-effective rate was 16 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Kennebec Arsenal, Maine*, furnished the highest admission rate for the year, 2,941 per 1,000 of mean strength; also the highest constant non-effective rate, 46 per 1,000; but, as these rates are based upon a mean strength of only 17 men, they are not considered reliable. The next highest admission rate, 2,409, was reported at Fort Myer, Va., and the next highest non-effective rate, 42 per 1,000, at Washington Barracks, D. C. Fort McHenry, Md., gave the highest death rate, 27 per 1,000.

There were no colored troops or Indians stationed in this region during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 916 officers and enlisted men serving in the region of Eastern Timbered Plains and Hills, there was constantly present during the year an average of 596 civilians. Of this number 112 were adult males, 238 adult females, and 246 children. The admissions to sick report numbered, for the adult males 10, with no deaths; for the adult females 151, and the deaths 1; for the children 175, and the deaths 5; or an aggregate of 336 admissions and 6 deaths.

The period of *greatest sickness* among civilian attachés comprised the months of February and March, the prevailing diseases being those of the respiratory and digestive systems, and catarrhal affections.

The *least sickness* among civilians was reported during the month of May; the prevailing diseases were those of the digestive system.

REGION OF THE APPALACHIAN MOUNTAINS.

This mountain region lies between the regions of Eastern and Central Timbered Plains and Hills, and extends in a southwesterly direction from the northern boundary of Maine to the northern central portion of Alabama, where it ceases. It is in general densely covered with forests, and enjoys a heavy rain-fall. Its greatest elevation is in the extreme north and south, and much of its area ranges from 1,000 to 7,000 feet above sea-level. Lying between the numerous ranges which make up the system are many valleys, whose elevation is much below the general level of the region.

There are but two permanent military stations in the whole area, both arsenals, and occupied by a very small number of men. In addition, one battery of artillery was encamped at, and en route to and from, Gettysburgh, Pa., from June 23 to July 9.

The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall reported from posts in this region during the year:

	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Region of the Appalachian Mountains	91	−14	18	48.0	77	52.1

The following table shows the stations in the region of the Appalachian Mountains, with mean strength of command and ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission, rate per 1,000 of mean strength.	Average number sick daily.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.				
Watervliet Arsenal, N. Y	34	39	2	41	1,206	.27	.....	.....
Allegheny Arsenal, Pa	26	10	3	13	500	.40	.....	.....
Field, Gettysburgh, Pa	3	.....	1	1	333	.02	.....	.....
Total	63	49	6	55	873	.68	.....	.....

The force serving in this region during the year consisted of two detachments of ordnance (and one battery of artillery in the field for 18 days only).

The mean strength, including officers, was 63 men. The total number of admissions to sick report was 55; of this number 51 were treated in quarters, 3 in hospital, and 1 in the field. The number of men daily non-effective on account of sickness averaged in quarters .54, in hospital .12, and in the field .02; total .68. Neither discharges nor deaths occurred in the region during the year.

The admission rate per 1,000 of mean strength was 873 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 48. The ratio of constant non-effectiveness on account of sickness was 11, in the proportion of 9 in quarters and 2 in hospital.

The average duration of each case of sickness was, for those treated in quarters 4 days, in hospital 15 days, in the field 6 days; for all cases treated 5 days; and the total loss of time on account of sickness averaged 4 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 5 days.

The ratio of recoveries per 1,000 of all admissions to sick report was 1,000.

SPECIAL DISEASES.—For *bronchitis* the admission rate was 111.11 per 1,000 of mean strength; for *catarrhs and common colds*, 31.75; for *muscular rheumatism*, 95.24; for *diarrhœa (acute and chronic)*, 126.98; for *paroxysmal (malarial) fevers*, 31.75; *abscesses and boils*, 47.62.

Of the class of *specific febrile and acute infectious diseases* no cases were reported in the region during the year.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury the period of *greatest sickness* among the troops serving in the region of the Appalachian Mountains during the year comprised the months of January and February; during this period the number constantly non-effective averaged 22 per 1,000 of mean strength, and the principal cause of this non-effectiveness was injuries.

February showed a greater number of admissions to sick report than any other month of the year, the rate per 1,000 of mean strength being 131; also a higher rate of constant non-effectiveness, 22 per 1,000.

The period of *least sickness* was during November and December, the constant non-effective rate being 5 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included; but, excluding from the calculation injuries, venereal diseases and alcoholism, the period of greatest sickness covered the months of May, June, and July, and the principal causes of admission were diseases of the integumentary system. The constant non-effective rate during the period was 12 per 1,000 of mean strength, that for the year being 8.

Excluding injuries, venereal diseases, and alcoholism, the period of least sickness comprised the months of September, October, and November, the constant non-effective rate being 4 per 1,000 of mean strength.

CIVILIANS WITH THE COMMAND.—With a mean strength of 63 officers and enlisted men serving in the region, there was constantly present during the year an average of 124 civilians. Of this number 6 were adult males, 46 adult females, and 72 children. The admissions to sick report numbered for the adult males none; for the adult females 31, and the deaths 3; for the children 32, and the deaths 4; or an aggregate of 63 admissions and 7 deaths.

The period of *greatest sickness* among civilian attachés comprised the months of July and October, the prevailing diseases being those of the digestive organs and of the respiratory system. The period of *least sickness* was during the months of January and February.

REGION OF THE NORTHERN LAKES.

This region includes the area bordering on the St. Lawrence River and the Great Lakes, together with the interior of Michigan, northern Wisconsin, and northeastern Minnesota, which are lacustrine in their character. The greater portion of the region is covered with heavy forests, which, together with the proximity of the Great Lakes and other smaller bodies of water, tend to reduce the extremes of temperature.

There are 11 military stations in the region of the Northern Lakes, which range in elevation from 262 to 840 feet above the level of the sea. The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall reported from these posts during the year:

Region of the Northern Lakes.	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
	92	— 17	17	44.2	75	31.14

The following table shows the stations in the region of the Northern Lakes, with mean strength of command, ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.				
Fort Brady, Mich	70	35	21	56	800	1.94	1	.....
Fort Mackinac, Mich	72	18	12	30	417	2.07	3	.....
Headquarters Department Dakota, Saint Paul and Fort Snelling, Minn	31	1	.....	1	32	.01	.....	.....
Fort Snelling, Minn	302	131	57	188	623	6.93	9	1
Plattsburgh Barracks, N. Y	42	20	4	24	571	.57	.....	2
Madison Barracks, N. Y	238	250	57	307	1,290	7.40	2	4
Fort Ontario, N. Y	42	35	6	41	976	.67	.....	1
Fort Niagara, N. Y	85	33	13	46	541	1.82	1	.....
Fort Porter, N. Y	77	61	7	68	883	2.26	1	.....
Fort Wayne, Mich	175	138	29	167	954	5.90	2	2
Chicago, Ill	58	2	.....	2	34	.44	.....	.....
Total	1,192	724	206	930	780	30.03	19	10

The force serving in this region during the year consisted of two entire regiments, and a portion of a third regiment, of infantry, together with one battery of artillery.

The mean strength, including officers, was 1,192 men, of whom 989 were white and 203 colored. The total number of admissions to sick report was 930. Of this number 387 were treated in quarters, and 543 in hospital. The number of men daily non-effective on account of sickness averaged in quarters 9, and in hospital 21; total 30.

The discharges for disability numbered, from quarters, 3; hospital, 16; total, 19; and the deaths, in quarters, 6; hospital, 4; total, 10.

The admission rate per 1,000 of mean strength was 780 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 455.

The ratio of deaths per 1,000 of mean strength was 8, in the proportion of 3 in hospital and 5 in quarters; that of discharges for disability was 16, in the proportion of 13 from hospital and 3 from quarters; and that of constant non-effectiveness on account of sickness was 25, in the proportion of 18 in hospital and 7 in quarters.

The average duration of each case of sickness was, for those treated in hospital, 14 days; in quarters, 8 days; for all cases treated, 12 days; and the total loss of time on account of sickness averaged 9 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 11 days; for those who were discharged for disability, 55 days, and for those who died, 60 days.

The ratio of recoveries per 1,000 of all admissions to sick report was 959; of discharges for disability 20, and of deaths 11.

The following table shows the number and classified causes of all admissions to sick report, deaths and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region.

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in the region.
	Admissions.	Deaths.	Discharges.	
Injuries	206	1	1	1
Diseases of the respiratory system	129	5	1	2
Diseases of the digestive system	114	.....	3	3
Diarrhœal diseases	86	.....	.....	4
Venereal diseases	70	.....	3	5
Diseases of the nervous system	55	1	2	6
Diseases of the integumentary system	55	.....	.....	7
Dietic diseases	39	.....	.....	8
Malarial diseases	33	.....	.....	9
Diseases of the locomotor system	29	.....	2	10
Constitutional diseases	28	1	2	11
Diseases of the eye	18	.....	2	12
Zoögenous diseases	12	.....	.....	13
Diseases of the lymphatic system	10	.....	.....	14
Specific febrile and acute infectious diseases	9	.....	.....	15
Diseases of the circulatory system	7	1	1	16
Diseases of the urinary system	5	1	1	17
Diseases of the ear	3	.....	.....	18
Diseases of the reproductive system	3	.....	.....	19
Septic diseases	2	.....	.....	20
Parasitic diseases	2	.....	.....	21
Diseases of the nose	1	.....	.....	22
Developmental diseases	.....	.....	1	
Unclassified	14	.....	.....	
Total	930	10	19	

SPECIAL DISEASES.—For *pneumonia*, the admission rate was 1.68 per 1,000 of mean strength; for *pulmonary phthisis*, 3.36; for *bronchitis*, 40.27; for *catarrh and common colds*, 48.66; for *articular rheumatism*, 15.10; for *muscular rheumatism*, 23.49; for *diarrhœa (acute and chronic)*, 65.44; for *dysentery (acute and chronic)*, 1.68; for *paroxysmal (malarial) fevers*, 27.68; for *typhoid fever*, 1.68.

Of the class of *specific febrile and acute infectious diseases*, 9 admissions to sick report, or a rate of 7.55 per 1,000 of mean strength, were reported in the region for the year; of this number, 3 cases, all *rötheln*, were reported among the colored troops.

Typhoid fever caused only 2 admissions to sick report during the year, both of which occurred at Fort Wayne, Mich., and both recovered. One case of scarlet fever, terminating in recovery, was reported, also at Fort Wayne.

There were 6 admissions for *rötheln*, 2 at Fort Wayne and 4 at Fort Snelling, Minn., with no deaths. Concerning the outbreak of this disease at the last-named post Surgeon C. H. Alden, the post surgeon says:

This disease, as it occurred at this post during the last winter and spring, presented characteristics that distinguished it very clearly from all other eruptive disorders. It has been so recently acknowledged to be a distinctive exanthem, that a brief account of its symptoms and course during the epidemic referred to may be of interest.

Scarlet fever, measles, and rötheln were all prevalent in 1885–'86 in the cities of Saint Paul and Minneapolis, within a few miles of Fort Snelling, but no cases of the two former diseases occurred here. The first person here attacked by epidemic roseola was a female servant of one of the officers, who was taken sick on December 29, 1885. She had returned ten days before from a few days' visit to Saint Paul, where she had been exposed to the contagion. The stage of incubation in this case could not have been less than 10 days, and was probably about 14. Another female servant in the same family was next attacked. She had not been absent from the post, and there can be no doubt that she contracted the disease from the first case. The date of seizure was January 18, 1886, 21 days after the first. Two young children and 2 adults (the officer and his wife) in the same family escaped, showing that the disease was not highly contagious. The next cases were in the adjoining double house, where two officers' families lived. A female servant was attacked February 1, and 3 children February 9, 14, and 22. After that those affected were scattered through the garrison; 68 cases, occurring in my own practice and that of Assistant Surgeon W.

L. Knoedler, were recorded. There was doubtless a number of other cases to which, from their mildness, our attention was not called. Of these 68 cases there were adult males 12, adult females 21; total adults, 33; children, 35. No adults over 30 and no children under 3 were affected. Two officers and 5 enlisted men were among those attacked. Of these, 1 officer and 2 enlisted men were not off duty.

The epidemic was, on the whole, as already stated, a mild one, and yet there was a striking difference in its intensity as it affected adults and children. In the former its onset was sharper, the eruption more abundant and brighter, the temperature higher, and the pharyngeal and bronchial symptoms more pronounced.

The stage of incubation could, as just shown, be tolerably well fixed in the earlier cases and lasted from 14 to 21 days, the period given by most writers. When the epidemic became general, it was necessarily impossible to determine the date of exposure. The length of time it took for the disease to exhaust itself—January to May—in connection with the shortness of individual attacks and the comparatively close contact of persons at a military post, point to a prolonged period of incubation. The appearance of the eruption was in most cases the first symptom that attracted attention, being noticed on the patient's arising in the morning. In these the prodromal symptoms may have passed unnoticed during sleep. In some, preceding malaise of a few hours' duration was distinctly noticed. In 2 cases (both children) the eruption did not appear until from 24 to 36 hours after the feeling of languor began. In both, enlargement of the posterior auricular and occipital lymphatic glands preceded the rash by about the same length of time. It is probable that this period did not represent the stage of invasion, but rather that in these individuals some cause not apparent delayed the eruption.

As seen, the eruption usually appeared with little or no warning. It showed itself first upon the neck and face, and progressed downwards with such rapidity, that generally before the night of the day on which it first appeared the whole body was affected. In a few cases it was not fully developed for 24 hours. The eruption resembled that of true measles, but was somewhat redder, and showed no disposition to a crescentic arrangement. In some of the adult cases, those of greatest severity, the rash was of a very bright red, and so closely covered the surface as to be almost confluent. This was specially true of the face, yet it never quite lost its macular character. The eruption lasted from 2 to 5 days, the longer period being rare, and only in the severest adult cases. There was, in these, a desquamation of fine scales, but none occurred ordinarily. No itching was complained of.

The highest temperature observed was 102°, occurring in an adult during the height of the eruption. It was persistent at near this point for about two days. In a large majority of cases there was, I am satisfied, no rise of temperature.

No prodromal sneezing or other catarrhal symptoms were observed in any case. In the severer ones, during the eruptive stage, there was some nasal catarrh, pharyngitis, and bronchial irritation. Most of the children escaped these complications entirely. In no case were they of serious nature. The urine was examined in several cases, but was never found to contain albumen. Diarrhœa came on with the eruption in one case, and lasted for several days after that symptom had disappeared, being annoying more from its persistence than its severity. Dizziness was complained of by 2 adults when the rash was at its height, and severe lumbar pain by 2 others at the same period.

Enlargement of the posterior auricular, occipital, and superficial cervical glands at the back of the neck was a marked feature of the disease. In 21 cases, 12 adults and 9 children, these glands were very considerably swollen and could be distinctly felt. In 2 cases, as already stated, the enlargement of the glands preceded the eruption. It was noticed that this glandular enlargement occurred in cases in which there were no pharyngitis and no catarrhal symptoms whatever. There was evidently no relation between them. A feeling of stiffness and soreness in the back of the neck was complained of by a number of patients, and in some there was a slight general swelling of the parts. This was probably due to an engorgement of the lymphatic glands, so that it would probably be safe to say that in two-thirds of the 68 cases the lymphatic system of this region was involved. In one case two enlarged glands, one on each side, were noticed high up on the back of the head, probably as high as, or above, the upper margin of the occipital bone, and much above the usual situation.

The diagnosis was made without difficulty. In the first case that occurred the character of the eruption, want of prodromata, and of catarrhal symptoms, with fact of probable exposure, settled the matter. In after cases the diagnosis was of course still easier. These four characteristics, the peculiar appearance of the rash, redder and more uniform than measles, its development after a very brief stage of invasion or no stage of invasion at all, the mildness or entire absence of pharyngitis or bronchial irritation, and lastly, though not least important, the swelling of the lymphatic glands at the nape of the neck, are quite sufficient to determine the nature of the disease. The last symptom when it occurs is almost pathognomonic. In my experience it attends no other affection. As it occurred here the disease resembled measles more closely than any other exanthem, but by no means closely enough to give rise to any doubt.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Northern Lakes during the year comprised the months of March, April, and May. The constant non-effective rate for this period was 27 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, injuries, venereal diseases and alcoholism, bronchitis, and malarial fevers.

August showed a greater number of admissions to sick report than any other month of the year, its rate being 94 per 1,000 of mean strength; but the number constantly non-effective from sickness was greater in May, the ratio per 1,000 of mean strength being 28.

The greatest number of deaths in any one month was 4, reported for August.

The period of *least sickness* appears to have been during the months of October, November, and December, the constant non-effective rate for this period being 23 per 1,000 of mean strength.

In the above computations all cases of disease or injury have been included, but if cases of injury, venereal disease and alcoholism are excluded from the calculation, it is found that the period of greatest sickness covered the months of April, May, and June, and the prevailing causes of disability were malarial diseases, bronchitis, and muscular rheumatism. The constant non-effective rate for this period was 16 per 1,000 of mean strength; that for the whole year being 15.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness comprised the months of September, October, and November, the constant non-effective rate being 13 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Madison Barracks, N. Y.*, furnished the highest admission rate for the year, 1,290 per 1,000 of mean strength; *Fort Wayne, Mich.*, the highest constant non-effective rate, 34 per 1,000; and *Plattsburgh Barracks, N. Y.*, the highest death rate, 48 per 1,000 of mean strength.

COLORED TROOPS.—The mean strength of colored troops stationed in the region of the Northern Lakes was 203; their admission rate for the year was smaller than that of the white troops, being 562, as against 825 per 1,000 of mean strength for the latter. Their constant non-effective rate from sickness was also smaller, being 19 against 26.

Excluding from the calculation, injuries, venereal diseases, and alcoholism, so as to estimate more accurately the effect of locality, it appears that the colored troops had nearly as much sickness as the white, the former furnishing a constant non-effective rate of 14 per 1,000, and the latter 15 per 1,000, of mean strength. The period of greatest sickness among these troops occurred during the months of August and September, there being an average of 16 per 1,000 of mean strength constantly non-effective during those months.

In this region the greatest disparity between the two races is observed to exist in the rates of occurrence of the following diseases: Malarial fever and diarrhœa, in favor of the colored troops, their rate for these diseases being, respectively, 4.93 and 14.78, and for the white troops, 32.36 and 75.83 per 1,000 of mean strength; in favor of the white troops, pharyngitis, bronchitis, and pneumonia, their rates being, respectively, 2.02, 36.40, and 1.01; and for the colored, 19.70, 59.11 and 4.93 per 1,000 of mean strength.

CIVILIANS WITH COMMAND.—With a mean strength of 1,192 officers and enlisted men serving in the region of the Northern Lakes, there was constantly present during the year an average of 841 civilians. Of this

number 139 were adult males, 337 adult females, and 365 children. The admissions to sick report numbered for the adult males 98, and the deaths 2; for the adult females 453, and the deaths 1; for the children 414, and the deaths 9; or an aggregate of 965 admissions and 12 deaths.

The period of *greatest sickness* among the civilian attachés comprised the month of July, the prevailing diseases being those of the digestive organs.

The *least sickness* was reported during the month of October, the prevailing diseases being those of the respiratory organs.

Region of Central Timbered Plains and Hills.

This area presents substantially the same features as the region of Eastern Timbered Plains and Hills, with which it is continuous in Alabama, and from which, to the northward, it is separated by the Appalachian system. Except the alluvial region of the Mississippi and Red Rivers, it includes all that area lying between the region of the Northern Lakes and the coast swamps of the Gulf of Mexico, and the Appalachian Mountains on the east and the region of the prairies on the west. In Kentucky, Tennessee, Ohio, Indiana, and southern Illinois the country is somewhat broken, while in the Ozark region of Arkansas, Missouri, and Indian Territory the hills are still more abrupt. In southeastern Arkansas, Louisiana, and eastern Texas the surface is comparatively level, and is densely forested. Two or more subdivisions of this area might properly be made, but, as the number of garrisoned posts within its limits is small, it has not been thought advisable to arrange them in groups for purposes of comparison, as has been done in other regions.

In the region of Central Timbered Plains and Hills six military stations were occupied by troops during the year. They range in elevation from 155 to 740 feet above the level of the sea. The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall reported from these posts during the year:

	Temperature (degrees Fahrenheit.)				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Region of Central Timbered Plains and Hills	94	−5	18	57.7	72	44.19

The following table shows the stations in the region of Central Timbered Plains and Hills, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rates per 1,000 of mean strength.	Average number sick daily.	Discharged for disability.	Deaths.
		Disease.	Injury.	Total.				
Columbus Barracks, Ohio	360	510	48	558	1,550	22.68	7	1
Newport Barracks, Ky	44	37	8	45	1,023	1.08	1	1
Indianapolis Arsenal, Ind	26	85	7	92	3,538	1.61	1	.....
Jefferson Barracks, Mo	513	1,379	164	1,543	3,008	51.17	19	11
Little Rock Barracks, Ark	107	154	16	170	1,589	4.78	5	.....
Mount Vernon Barracks, Ala	64	53	14	67	1,047	2.65	1	.....
Total	1,114	2,218	257	2,475	2,222	83.98	34	13

The force serving in this region during the year consisted of five batteries of artillery, one detachment of ordnance, and the unassigned recruits at the recruiting depots at Columbus Barracks, Ohio, and Jefferson Barracks, Mo.

The mean strength, including officers, was 1,114 men, of whom 1,028 were white, and 86 colored. The total number of admissions to sick report was 2,475; of this number 1,314 were treated in quarters, and 1,161 in hospital. The number daily non-effective on account of sickness averaged in quarters 18, in hospital 66, total 84. The discharges for disability numbered, from quarters 6, from hospital 28, total 34; and the deaths, in quarters 3, hospital 10, total 13.

The admission rate per 1,000 of mean strength was 2,222 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 1,042. The ratio of deaths per 1,000 of mean strength was 12, in the proportion of 9 in hospital and 3 in quarters; that of discharges for disability was 31, in the proportion of 6 from quarters and 25 from hospital; and that of constant non-effectiveness on account of sickness was 75, in the proportion of 16 in quarters and 59 in hospital.

The average duration of each case of sickness was, for those treated in quarters 5 days, in hospital 21 days, for all cases treated 12 days; and the total loss of time on account of sickness averaged 28 days for each man in the command.

The average duration of treatment for patients who recovered and were returned to duty was 11 days; for those who were discharged for disability 108 days, and for those who died 12 days. The ratio of recoveries per 1,000 of all admissions to sick report was 940, of discharges for disability 14, and of deaths 5.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in the region.
	Admissions.	Deaths.	Discharges.	
Malarial diseases	571	4	1	1
Diarrhoeal diseases	407		2	2
Injuries	257	3	1	3
Diseases of the digestive system	246		3	4
Venereal diseases	203		7	5
Diseases of the respiratory system	197	3	4	6
Diseases of the nervous system	142		5	7
Diseases of the integumentary system	108			8
Zoögenous diseases	91			9
Constitutional diseases	46		1	10
Specific febrile and acute infectious diseases	36	3		11
Diseases of the locomotor system	23		1	12
Parasitic diseases	21			13
Diseases of the eye	18		2	14
Dietic diseases	16			15
Diseases of the reproductive system	15		2	16
Diseases of the lymphatic system	13		2	17
Diseases of the urinary system	11		2	18
Diseases of the ear	11			19
Septic diseases	4			20
Diseases of the circulatory system	4		1	21
Typho-malarial fever	2			22
Diseases of the nose	1			23
Unclassified	32			
Total deaths		13		
Total discharges			34	
Total cases	2,475			

SPECIAL DISEASES.—For *pneumonia* the admission rate was 7.18 per 1,000 of mean strength; for *pulmonary phthisis* it was 3.59; for *pleuritis*, 1.80; for *bronchitis*, 30.52; for *catarrh and common colds*, 131.96; for *articular rheumatism*, 39.50; for *diarrhœa (acute and chronic)*, 350.09; for *muscular rheumatism*, 13.46; for *dysentery (acute and chronic)*, 4.49; for *cholera morbus*, 10.77; for *paroxysmal (malarial) fevers*, 512.57; for *typho-malarial fever*, 1.80; for *typhoid fever*, 7.18.

Of the class of *specific febrile and acute infectious diseases*, 36 admissions to sick report, or a rate of 32.32 per 1,000 of mean strength, were reported in the region during the year, and all but three occurred among the white troops; there were 3 admissions for measles among the colored troops.

Typhoid fever caused 8 admissions, all of which occurred at Jefferson Barracks, Mo.; 3 deaths from this disease were reported at that station. The post surgeon at Jefferson Barracks, Surgeon Ely McClellan, in his report for December, says:

> Among the cases of fever was a group of 6 cases of typhoid. I am unable to determine in these cases the source of infection, but am of opinion that they developed as a sequence to the case of a general prisoner, in whom the disease developed shortly after his arrival at this depot, and which terminated fatally in twenty days.

Measles caused 25 admissions, of which Columbus Barracks, Ohio, furnished 16 cases, and Jefferson Barracks, Mo., 9; *diphtheria*, 1 admission, at Newport Barracks, Ky.; *mumps*, 1, at Mount Vernon Barracks, Ala.; *whooping-cough*, 1, at Jefferson Barracks.

Except the three fatal cases of typhoid fever at Jefferson Barracks, no deaths were reported for this class of diseases.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of Central Timbered Plains and Hills during the year comprised the months of September, October, and November. During this period the number constantly non-effective on account of sickness averaged 84 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, malarial fevers, venereal diseases and alcoholism, and injuries.

October showed a greater number of admissions to sick report than any other month of the year, the ratio per 1,000 of mean strength being 230. The number constantly non-effective on account of sickness was also greatest in October, the ratio being 90 per 1,000 of mean strength.

The period of *least sickness* appears to have been during the months of May, June, and July, the constant non-effective rate being 70 per 1,000 of mean strength.

In the above computations all cases of disease or injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that, while the period of greatest sickness remains unchanged, the prevailing causes of sickness were malarial fevers, diarrhoeal diseases, and catarrhs and common colds, in the order of their relative frequency of occurrence, and the constant non-effective rate was 64, that for the year being 55, per 1,000 of mean strength.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness was during the months of July and August, the constant non-effective rate being 48 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Indianapolis Arsenal, Ind.*, furnished the highest admission rate for the year, 3,538 per 1,000 of mean strength, but as this rate is based upon a mean strength of only 26

men, it is not considered reliable. The next highest admission rate, 3,008, as well as the highest constant non-effective rate, 100, per 1,000, were reported at *Jefferson Barracks, Mo.* *Newport Barracks, Ky.*, gave the highest death rate, 23 per 1,000.

COLORED TROOPS.—The mean strength of colored troops serving in the region was 86. Both the admission rate and the constant non-effective rate were higher for the colored than for the white troops; for the former they were respectively 2,651 and 106, and for the latter 2,186 and 73, per 1,000 of mean strength. Excluding from the calculation injuries, venereal diseases, and alcoholism, so as to estimate more accurately the effect of locality, the difference between the two races is not so great, the colored troops showing a constant non-effective rate of 63 per 1,000 of mean strength, while the white give 54 per 1,000.

During the months of February, March, and April (exclusive of injuries, venereal diseases, and alcoholism), the monthly admission rate was much greater for the colored troops than for the white, being 226 per 1,000 of mean strength for the former, and 145 for the latter. The diseases, in the rates of occurrence of which the greatest disproportion between the two races is observed to exist, are tonsilitis, which caused for the year an admission rate of 139.53 for the colored soldier, and 92.41 for the white; and catarrhs and common colds, 244.19 for the former, and 122.57 for the latter. During the months of February, March, and April, the period of greatest sickness among the colored troops, their monthly admission rate for catarrh and common colds alone averaged 43.82 per 1,000 of mean strength, while that for the white troops was 15.64.

No Indian scouts were in service in this region during the year.

CIVILIANS WITH COMMAND—With a mean strength of 1,114 officers and enlisted men serving in the region, there was constantly present during the year an average of 431 civilians. Of this number, 47 were adult males, 168 adult females, and 216 children. The admissions to sick report numbered for the adult males 9, and the deaths 1; for the adult females 99, and the deaths none; for the children 115, and the deaths 5; or an aggregate of 223 admissions and 6 deaths.

The period of *greatest sickness* among the civilian attachés comprised the months of February and March, the prevailing diseases being those of the respiratory organs, of the digestive organs, and malarial diseases.

The *least sickness* among civilians was reported during the month of September. The prevailing diseases were those of the respiratory organs and malarial diseases.

REGION OF THE GULF COAST.

This region includes those portions of Florida, Alabama, Mississippi, Louisiana, and Texas which border on the Gulf of Mexico. It is continuous with, and similar in character to, the coast swamps of the southern Atlantic coast. Nearly all of it is low and marshy, with a hot climate, tempered somewhat by proximity to the sea, and an extremely moist atmosphere.

There were 4 military stations in this region occupied by troops during the year. They range in elevation from 10 to 52 feet above the level of the sea. The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall reported from these posts.

	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Region of the Gulf Coast	95	15	15	67.1	78	53.80

The following table shows the stations in the region of the Gulf Coast, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharged for disability.	Deaths.
		Disease.	Injury.	Total.				
Fort Barrancas, Fla	94	63	13	76	1,407	2.05	1	.....
Jackson Barracks, La	80	63	12	75	937	2.24	2	.....
New Orleans, La	8	4	.....	4	500	.11	.....	.....
Fort Brown, Tex	148	234	32	266	1,797	11.13	9	2
Field	6	4	1	5	833	.11	.....	1
Total	296	368	58	426	1,439	15.64	12	3

The force serving in this region during the year consisted of 4 batteries of artillery, 2 companies of cavalry, and 1 of infantry.

The mean strength, including officers, was 296 men. The total number of admissions to sick report was 426; of this number 135 were treated in quarters, 286 in hospital, and 5 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 3, in hospital 13, total 16.

The discharges for disability numbered, from quarters 2, from hospital 10, total 12; and the deaths, in quarters 2, hospital 1, total 3.

The admission rate per 1,000 of mean strength was 1,439 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 966. The ratio of deaths per 1,000 of mean strength was 10, in the proportion of 3 in hospital and 7 in quarters; that of discharges for disability was 41, in the proportion of 34 from hospital and 7 from quarters; and that of constant non-effectiveness on account of sickness was 53, in the proportion of 44 in hospital and 9 in quarters.

The average duration of each case of sickness was, for those treated in quarters, 6 days; in hospital, 17 days; in the field, 8 days; for all cases treated, 13 days; and the total loss of time on account of sickness averaged 19 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days; for those who were discharged for disability, 85 days; and for those who died, 8 days. The ratio of recoveries per 1,000 of all admissions to sick report was 918; of discharges for disability, 28; and of deaths, 7.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in the region.
	Admissions.	Deaths.	Discharges.	
Malarial diseases	90			1
Venereal diseases	72		6	2
Injuries	58	1	1	3
Diseases of the digestive system	34	1		4
Diseases of the integumentary system	29			5
Diseases of the nervous system	24	1	1	6
Diarrhœal diseases	22			7
Diseases of the locomotor system	22			8
Dietic diseases	17			9
Constitutional diseases	13		1	10
Diseases of the respiratory system	8			11
Diseases of the reproductive system	7			12
Diseases of the ear	5		1	13
Diseases of the eye	4			14
Diseases of the urinary system	4			15
Specific febrile and acute infectious diseases	3			16
Diseases of the circulatory system	3		2	17
Septic diseases	2			18
Zoögenous diseases	2			19
Diseases of the lymphatic system	2			20
Developmental diseases	1			21
Parasitic diseases	1			22
Unclassified	3			
Total deaths		3		
Total discharges			12	
Total cases	426			

SPECIAL DISEASES.—In this region no cases of *pneumonia*, *pulmonary phthisis*, or *pleuritis* were reported during the year. For *bronchitis* the admission rate was 20.27 per 1,000 of mean strength; for *catarrh and common colds* it was 6.76; for *articular rheumatism*, 43.92; for *diarrhœa (acute and chronic)*, 70.95; for *dysentery (acute and chronic)*, 3.38; for *paroxysmal (malarial) fevers*, 304.05. No admissions were reported for *typhoid fever*.

Of the class of *specific febrile and acute infectious diseases* only 3 admissions to sick report, or a rate of 10.14 per 1,000 of mean strength, were reported; they were all cases of mumps.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Gulf coast during the year comprised the months of October, November, and December. During this period the number constantly non-effective on account of sickness averaged 72 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, venereal diseases and alcoholism, malarial fevers, and injuries. The rate of constant non effectiveness for the year was 53 per 1,000 of mean strength.

October showed a greater number of admissions to sick report than any other month of the year, the ratio per 1,000 of mean strength being 157; but the number constantly non-effective on account of sickness was greatest in December, the ratio per 1,000 of mean strength being 77.

The period of *least sickness* appears to have been during the months of February, March, and April, the constant non-effective rate being 35 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that the period of greatest sickness comprised the months of June and July, and the principal causes of disability were malarial fevers, heart disease, paralysis, and articular

rheumatism. The constant non-effective rate for this period was 35, and for the year 27, per 1,000 of mean strength.

According to this calculation the period of least sickness was during the months of March, April, and May, the constant non-effective rate averaging 21 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Fort Brown, Tex.*, furnished the highest admission rate for the year, 1,797 per 1,000 of mean strength; also the highest constant non-effective rate, 75, and the highest death rate, 14, per 1,000.

Neither colored troops nor Indian scouts were stationed in this region during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 296 officers and enlisted men serving in the region there was constantly present during the year an average of 219 civilians. Of this number 23 were adult males, 67 adult females, and 129 children. The admissions to sick report numbered for the adult males 5, and the deaths none; for the adult females 9, and the deaths none; and for the children 15, and the deaths 1; or an aggregate of 29 admissions, and 1 death.

The period of *greatest sickness* among the civilian attachés comprised the month of June, the prevailing diseases being those of the digestive organs.

REGION OF THE PRAIRIES.

This region extends from the British possessions to the Gulf of Mexico, and may be looked upon, both as regards physical features and climatic conditions, as a transition ground, with no well-defined line of demarkation, between the regions of Central Timbered Plains and Hills and the Northern Lakes on the east, and the Great Plains on the west. Its surface is level or gently undulating, and its timbered area ranges from 20 per cent. down to zero. Of the 22 military stations within its limits none has an altitude of over 2,000 feet; 16 are between 1,000 and 2,000 feet, and 6 between 500 and 1,000 feet above the level of the sea.

For purposes of comparison the posts in this region have been divided into three groups—the northern, middle, and southern. The following table shows the average of all the observations reported from the several stations in each group on temperature, rain-fall, and relative humidity of the atmosphere:

Groups of stations in the region of the Prairies.	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Northern	103	—34	24	42.3	73	19.95
Middle	102	—18	21	51.9	61	22.31
Southern	106	1	22	64.7	66	22.68

The following table shows the stations in the region of the prairies, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.				
Northern group:								
Fort Pembina, Dak	83	56	20	76	916	1.77	2	1
Fort Totten, Dak	169	141	29	170	1,006	3.55	2	.....
Fort Sisseton, Dak	91	82	12	94	1,033	2.30	6	.....
Fort Buford, Dak	279	209	48	257	921	8.37	2	1
Fort A. Lincoln, Dak	161	127	38	165	1,025	3.95	2	1
Fort Yates, Dak	257	168	59	227	883	7.69	8	5
Fort Bennett, Dak	39	27	6	33	846	.81	.....	.....
Fort Sully, Dak	170	140	40	180	1,059	8.45	2	1
Fort Randall, Dak	172	154	86	240	1,395	9.04	4	2
In the field	7	1	.....	1	143	.19	.....	.....
Total	1,428	1,105	338	1,443	1,011	46.11	28	11
Middle group:								
Rock Island Arsenal, Ill	58	88	7	95	1,638	2.20	1	.....
Fort Omaha, Nebr	312	446	84	530	1,699	14.12	6	3
Omaha City (headquarters Department of the Platte), Nebr	32	12	2	14	437	.23	.....	.....
Fort Leavenworth (post), Kans	633	707	107	814	1,286	24.11	18	7
Fort Leavenworth (prison guard), Kans	105	52	7	59	562	1.07	3	1
Leavenworth City, Kans	20	1	1	2	100	.05	.....	.....
Fort Riley, Kans	319	407	65	472	1,480	13.27	14	10
Fort Gibson, Ind. T	83	148	31	179	2,157	3.56	2	.....
Fort Sill, Ind. T	279	389	69	458	1,642	16.10	13	1
In the field	43	35	5	40	930	1.03	.....	.....
Total	1,884	2,285	378	2,663	1,413	75.74	57	22
Southern group:								
Fort Concho, Tex	267	329	105	434	1,625	15.56	9	5
San Antonio (post), Tex	213	211	43	254	1,192	8.38	4	3
San Antonio (headquarters Department of Texas), Tex	33	28	1	29	879	1.23	.....	2
Camp Langtry, Tex	18	15	5	20	1,111	.39	.....	.....
In the field	15	1	.....	1	67	.07	.....	.....
Total	546	584	154	738	1,352	25.63	13	10
Total for the region	3,858	3,974	870	4,844	1,256	147.48	98	43

The force serving in this region during the year consisted of portions of 8 regiments of cavalry and of 14 regiments of infantry, together with two batteries of artillery. Detachments of Indian scouts were also in service, but they are not included in computing the mean strength of command or any of the ratios given below, for reasons which are stated at length in the section of this report devoted to the consideration of the health of the whole Army.

The mean strength, including officers, was 3,858 men, of whom 3,593 were white and 265 colored. The total number of admissions to sick report was 4,844; of this number 2,681 were treated in quarters, 2,121 in hospital, and 42 in the field. The number of men daily non-effective on account of sickness averaged, in quarters, 53; in hospital, 93, and in the field, 1; total, 147. The discharges for disability numbered, from quarters, 35; hospital, 63; total, 98; and the deaths, in quarters, 18; hospital, 25; total, 43.

The admission rate per 1,000 of mean strength was 1,256 for all men who were excused from any portion of their military duty on

account of sickness, but for those cases which required admission to hospital the rate was 550. The ratio of deaths per 1,000 of mean strength was 11, in the proportion of 6 in hospital and 5 in quarters; that of discharges for disability was 25, in the proportion of 9 from quarters and 16 from hospital; and that of constant non-effectiveness on account of sickness was 38, in the proportion of 24 in hospital and 14 in quarters.

The average duration of each case of sickness was, for those treated in quarters, 7 days; in hospital, 16 days; in the field, 11 days; for all cases treated, 11 days; and the total loss of time on account of sickness averaged 14 days for each man in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 55 days, and for those who died 20 days. The ratio of recoveries per 1,000 of all admissions to sick report was 914, of discharges for disability 20, and of deaths 9.

The admission rate per 1,000 of mean strength was highest in the middle group of posts, being 1,413; it was lowest in the northern group, being 1,011; in the southern it was 1,352. The death rate was also lowest in the northern group, being 8 per 1,000 of mean strength, as against 12 in the middle and 18 in the southern. The number of deaths per 1,000 of all admissions to sick report was but 8 in both the northern and middle groups against 14 in the southern.

The constant non-effective rate was lowest in the northern group, being 32 per 1,000 of mean strength, while it was 40 in the middle and 47 in the southern group.

The ratio of discharges for disability per 1,000 of mean strength was highest in the middle group, being 30, as against 24 in the southern and 20 in the northern group; while the average duration of treatment prior to discharge was longest in the southern group, being 66 days, as against 57 in the middle, and 47 in the northern group.

The average duration of treatment in cases resulting in death was highest in the southern group, being 24 days, as against 20 in the middle and 16 in the northern; for patients who recovered and were returned to duty it was 9 days in the middle and 11 days in both the northern and southern groups.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position, in order of frequency of occurrence, occupied by each cause of admission for the region and for each group therein:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in—			
	Admissions.	Deaths.	Discharges.	The region.	Each group.		
					Northern.	Middle.	Southern.
Injuries	870	16	4	1	1	3	1
Diseases of the digestive system	630	1	7	2	2	5	2
Diarrhœal diseases	600	4	.....	3	6	2	3
Diseases of the respiratory system	564	5	15	4	3	4	5
Malarial diseases	534	1	2	5	10	1	6
Diseases of the nervous system	306	3	8	6	4	6	9
Diseases of the integumentary system	302	.....	1	7	5	7	4
Venereal diseases	241	.....	14	8	8	8	7
Diseases of the locomotor system	174	.....	9	9	7	9	11
Constitutional diseases	138	2	12	10	11	10	8
Dietic diseases	129	1	.....	11	9	11	12
Diseases of the eye	59	.....	3	12	12	15	10

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in—			
	Admissions.	Deaths.	Discharges.	The region.	Each group.		
					Northern.	Middle.	Southern.
Diseases of the reproductive system	51	.....	2	13	16	12	13
Zoögenous diseases	46	.....	.....	14	13	13	14
Diseases of the circulatory system	35	4	10	15	17	16	16
Specific febrile and acute infectious diseases	30	5	.....	16	20	14	18
Diseases of the ear	28	.....	1	17	14	17	20
Diseases of the urinary system	25	1	1	18	15	18	21
Diseases of the lymphatic system	22	.....	.....	19	19	19	17
Parasitic diseases	15	.....	.....	20	21	21	15
Septic diseases	13	.....	.....	21	18	20	19
Diseases of the nose	3	.....	1	22	22	22	.....
Developmental diseases	2	.....	6	23	23	.....	22
Unclassified	27	.....	2	.....	.....	.....	.....
Total deaths	.....	43	.....	.....	.....	.....	.....
Total discharges	.....	.....	98	.....	.....	.....	.....
Total cases	4,844	.....	.....	.....	.....	.....	.....

SPECIAL DISEASES.—For *pneumonia*, the admission rate was 4.90 per 1,000 of mean strength in the northern group, 3.72 in the middle, and 1.83 in the southern; for *bronchitis*, 44.82 in the northern, 45.65 in the middle, and 47.62 in the southern; for *catarrh and common colds*, 65.13 in the northern, 98.73 in the middle, and 36.63 in the southern; for *articular rheumatism*, 30.81 in the northern, 27.60 in the middle, and 54.95 in the southern; for *diarrhœa (acute and chronic)*, 59.52 in the northern, 199.04 in the middle, and 146.52 in the southern; for *dysentery (acute and chronic)*, 0 in the northern, 16.45 in the middle, and 9.16 in the southern; for *paroxysmal (malarial) fevers*, 35.01 in the northern, 227.71 in the middle, and 100.73 in the southern; for *typhoid fever*, 3.50 in the northern, 5.84 in the middle, and 1.83 in the southern; for *pulmonary phthisis*, 4.90 in the northern, 4.78 in the middle, and 7.33 in the southern.

Of the class of *specific febrile and acute infectious diseases* only 30 admissions to sick report, or a rate of 7.78 per 1,000 of mean strength, were reported in the whole region during the year; 24 of these cases occurred among the white troops, and 6 cases (all measles) among colored.

Typhoid fever caused 17 admissions, 8 of which occurred at Fort Riley, Kans., 5 at Fort Randall, Dak., 2 at Fort Sill, Ind. T., and at Fort Omaha, Nebr., and San Antonio (post), Tex., each 1 case. Four deaths resulted.

The post surgeon at Fort Randall, Dak., Assistant Surgeon W. C. Gorgas, in reporting the history and autopsy of a fatal case of typhoid fever which occurred at that post in the month of September, says:

> Two cases of typhoid fever have developed at the post during the month. No direct cause of infection could be traced, though the disease prevailed extensively through the surrounding settlements last fall. Both these cases developed in parts of the garrison where the hygienic conditions are at the worst, viz., in the guard-house and in the garden. The prisoners are confined in an ill-ventilated room of about 4,000 cubic feet capacity, with no sleeping accommodations. Sometimes as many as 20 men are confined in this room. In winter it is heated by a wood stove, which adds to the closeness. The food is brought long distances from the company kitchens, with no provision for keeping it warm. One of the cases of typhoid fever reported this month was that of a soldier who had been in the guard-house for a month, and had been released a few days before his admission into hospital.
>
> The garden is surrounded on three sides by a small stream, into which the garbage of the post is dumped above the garden, and is, besides, low ground. The odor from this stream is quite perceptible during the summer months. The fatal case of typhoid fever reported above was that of a man who had been working and sleeping in the garden for a month or more before he was attacked.

Of the 8 cases of this disease which were reported from Fort Riley, Kans., the first case occurred in July, and the last in November; 2 were fatal. In addition, 1 death from this cause was reported to have occurred among the civilian attachés of the command. No remarks were made in any of the monthly reports relative to the origin of the disease.

At Fort Sill, Ind. T., 2 cases of typhoid fever occurred during the year; both terminated in recovery. The post surgeon, Surgeon M. K. Taylor, stated in his sanitary report that the sewage from the line of officers' quarters and the drainage from certain collections of garbage and stable manure had been allowed to discharge into, and thereby pollute to a dangerous extent, the water of Medicine Bluff creek, upon which stream were located the ranch from which the supply of milk for the post was obtained, and several camps occupied by men engaged in connection with the quartermaster's department of the post.

Measles caused 6 admissions at Fort Sill, Ind T.; no deaths. All of these cases occurred among colored troops. *Scarlet fever* caused 5 admissions, all white and all at Fort Riley, with 1 death. One case of *cerebro-spinal fever*, which terminated in recovery, was reported at Fort Omaha, Nebr.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Prairies during the year comprised the months of October, November, and December in both the northern and middle groups, and July, August, and September in the southern.

During the period of greatest sickness in the northern group the number constantly non-effective averaged 35 per 1,000 of mean strength. The principal causes of this non-effectiveness were, in the order of their relative importance, injuries, venereal diseases and alcoholism, articular rheumatism, and typhoid fever. In the middle group, during this period, the daily non-effective rate was 44 per 1,000 of mean strength, the principal causes being injuries, malarial fevers, venereal diseases and alcoholism, and diarrhœal diseases. In the southern group, for the same period, the daily average of non-effectiveness was 60 per 1,000 of mean strength; the prevailing causes were venereal diseases and alcoholism, malarial fevers, diarrhœal diseases, and injuries.

January showed a greater number of admissions to sick report than any other month of the year in the northern group, and July in both the middle and southern groups, the rates per 1,000 of mean strength being 105, 162, and 161, respectively; but the number constantly non-effective on account of sickness was greatest in December in the northern and middle groups, and in August in the southern, the rates per 1,000 of mean strength being 39, 47, and 69.

The period of *least sickness* appears to have been during the months of March, April, and May in the northern group, and April, May, and June in both the middle and southern groups, the constant non-effective rates being 27, 33, and 42, respectively.

In the above computations all cases of disease and injury have been included; but if cases of injury, venereal disease and alcoholism are excluded, it is found that, while the period of greatest sickness remains unchanged in each of the three groups, the constant non-effective rate is greatly diminished.

In the northern group, excluding the cases above mentioned, the prevailing diseases during the period of greatest sickness were articular rheumatism, typhoid fever, diseases of the eye, diseases of the integumentary system, and bronchitis; and the constant non-effective

rate was 24 per 1,000 of mean strength, that for the year being 21. In the middle group the prevailing causes of sickness were malarial fevers, diarrhœal diseases, typhoid fever, and diseases of the integumentary system; the constant non-effective rate was 31 per 1,000 of mean strength, that for the whole year being 29. In the southern group the prevailing causes of sickness were malarial fevers, diarrhœal diseases, and diseases of the integumentary system: and the constant non-effective rate was 48 per 1,000 of mean strength, that for the year being 33.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness comprised the months of April, May, and June in each of the three groups, the constant non-effective rates of the three groups being, respectively, 16, 24, and 29 per 1,000 of mean strength, while that of the whole region for the same period was 21.

HEALTH OF INDIVIDUAL POSTS.—In the northern group *Fort Randall, Dak.*, furnished the highest admission rate for the year, 1,395 per 1,000 of mean strength, also the highest non-effective rate, 53 per 1,000; *Fort Yates, Dak.*, the highest death rate, 19 per 1,000.

In the middle group *Fort Gibson, Ind. T.*, furnished the highest admission rate, 2,157 per 1,000, and *Fort Sill, Ind. T.*, the highest constant non-effective rate, 58 per 1,000; *Fort Riley, Kans.*, the highest death rate, 31 per 1,000.

In the southern group *Fort Concho, Tex.*, had the highest admission and non-effective rates, 1,625 and 58, respectively. At headquarters department of Texas, San Antonio, the highest death rate, 61 per 1,000, occurred, but this is considered accidental, because based upon a mean strength of only 33 men, leaving *Fort Concho*, with a rate of 19 per 1,000, as the highest in the group.

COLORED TROOPS.—The mean strength of colored troops, serving in the region of the Prairies, was 265; 80 in the northern group, and 185 in the middle. There were no colored troops stationed in the southern group during the year.

In the northern group the admission rate of the colored troops, counting all cases of disease or injury, was 134 per 1,000 higher than that of the white, being 1,137 as against 1,003: while their non-effective rate was lower, being 26 per 1,000 as against 33 for the white.

In the middle group the colored troops gave admission and constant non-effective rates higher than those of the white, those for the former being 1,476 and 44 per 1,000 of mean strength, respectively, and for the latter 1,407 and 40.

Excluding from the calculation injuries, venereal diseases, and alcoholism, it appears that the non-effective rate of the colored troops in the northern group was about the same as that of the white, the one being 21.50 and the other 21.28 per 1,000 of mean strength; in the middle group it was 32 for the colored and 28 for the white troops.

Excluding the cases mentioned above, the monthly admission rate of the colored troops in the northern group during January and February averaged 185 per 1,000 of mean strength, being more than three times that of the white troops, which was 58 per 1,000 for the same period. In the middle group during March and April the monthly admission rate of the colored troops averaged 149, and that of the white 88, per 1,000 of mean strength.

In the northern group the diseases, in the rates of occurrence of which the greatest disproportion between the two races is observed, are catarrhs and common colds, muscular rheumatism, and articular rheumatism, the colored soldier showing for these causes admission rates for the

year of 212.50, 175.00, and 75.00 per 1,000 of mean strength, respectively, while those of the white soldier are only 56.38, 46.74, and 28.19.

In the middle group the disproportion in the rate of occurrence of catarrhs and common colds, so marked in the northern group, is reversed, that of the colored troops being only 16.22 for the year, while that of the white was 107.71 for the same period. Muscular rheumatism and articular rheumatism affected both races in about the same proportion. Malarial fevers were the principal cause of admission among the colored troops, their rate for this class of diseases being 383.78, considerably in excess of that of the white troops, which was 210.71 per 1,000 of mean strength.

INDIAN SCOUTS.—The Indian scouts in this region had a mean strength of 22 for the year; of this number, 6 were in the northern group and 16 in the middle. Only 2 admissions to sick report occurred among them during the year, one being a case of pulmonary phthisis, producing the only death which occurred; one discharge also resulted from this disease, the patient receiving no treatment.

CIVILIANS WITH COMMAND.—With a mean strength of 3,858 officers and enlisted men serving in the region of the Prairies, there was constantly present during the year an average of 2,780 civilians. In addition, the convicts and employés at the Leavenworth Military Prison had an average strength for the year of 572, which added to the foregoing gives a total of 3,352. Of this number, 1,017 were adult males, 1,093 adult females, and 1,242 children. The admissions to sick report numbered for the adult males 496, and the deaths 9; for the adult females 805, and the deaths 10; for the children 694, and the deaths 36; or an aggregate of 1,995 admissions and 55 deaths.

The period of *greatest sickness* among civilian attachés, both adults and children, comprised the months of July and August in the northern group of posts, July in the middle group, and October and November in the southern group, the prevailing diseases being those of the digestive system in both the northern and southern groups, and in the middle group the same, together with malarial diseases.

The *least sickness* among civilians was reported during the months of April and May in the northern group, October and November in the middle group, and January in the southern group.

REGION OF THE GREAT PLAINS.

The region thus designated stretches from the northern to the southern boundary of the country, and from the base of the Rocky Mountains on the west to the Prairie region, into which it imperceptibly merges on the east. Its features are, in general, those of an arid, treeless plain. The surface is undulating, with few or no sharp changes of level, and its elevation ranges from about 2,000 feet along the eastern border, to 5,000 or 6,000 along the western border, at the base of the Rocky Mountains. Toward the southern border the elevation gradually diminishes until the Rio Grande is reached. In this vicinity some of the military stations have an elevation of less than 1,000 feet; but, with this exception, all posts in the region of the Great Plains are more than 2,000 feet above the level of the sea. The rain-fall of this region is universally small; timber growth is almost entirely absent; the aridity of the atmosphere is great, and, in general, increases from north to south and from east to west: the thermometric variations, both diurnal and annual, are excessive; and, during certain seasons, violent and long-continued wind-storms, often accompanied by rain, snow, or hail, are of frequent occurrence.

In this region are located 29 military stations: for purposes of comparison they have been divided into three groups—the Northern, Middle, and Southern. From the following table it will be seen that the average maximum temperature, daily thermometric range, and total rain-fall, recorded during the year 1886, were almost exactly the same in each of these subdivisions, the only noticeable points of difference between them being the minimum temperature, which averaged in the northern group of posts 18° lower than in the middle, and 52° lower than in the southern group, and the mean annual temperature which, of course, was considerably higher in the southern than in the middle or northern groups:

Groups of stations in the region of the Great Plains.	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Northern	106	—40	26	43.5	64	14.45
Middle	105	—22	26	51.7	66	15.03
Southern	106	12	25	67.3	55	14.73

The following table shows the stations in the region of the Great Plains, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharged for disability.	Deaths.
		Disease.	Injury.	Total.				
Northern group:								
Fort Assinniboine, Mont	419	587	96	683	1,630	23.41	9	8
Camp Poplar River, Mont	85	150	23	173	2,030	5.53	1	0
Fort Shaw, Mont	204	126	59	185	907	7.12	7	2
Fort Maginnis, Mont	199	192	52	244	1,226	9.47	11	0
Fort Keogh, Mont	382	283	106	389	1,018	10.58	12	1
Fort Custer, Mont	420	402	76	478	1,138	19.24	19	2
Fort Meade, Dak	498	618	151	769	1,544	17.73	16	3
Fort McKinney, Wyo	240	600	90	690	2,875	14.74	9	0
Total	2,447	2,958	653	3,611	1,476	107.82	84	16
Middle group:								
Fort Niobrara, Nebr	271	219	73	292	1,077	10.27	7	5
Fort Robinson, Nebr	194	231	78	309	1,593	14.65	10	5
Fort Laramie, Wyo	258	166	47	213	826	7.09	7	0
Fort D. A. Russell, Wyo	392	402	76	478	1,219	11.79	10	2
Fort Sidney, Nebr	224	346	55	401	1,790	8.74	4	2
Fort Hays, Kans	144	104	16	120	833	5.50	4	1
Fort Lyon, Colo	203	228	31	259	1,276	5.60	5	2
Fort Supply, Ind. T	287	228	55	283	986	11.43	9	0
Fort Reno, Ind. T	276	324	102	426	1,543	10.12	11	2
Fort Elliott, Texas	189	54	18	72	381	3.40	1	2
Total	2,438	2,302	551	2,853	1,170	88.59	68	21
Southern group:								
Fort Stanton, N. Mex	194	152	47	199	1,026	6.98	3	1
Fort Bliss, Tex	87	110	15	125	1,437	3.10	4	3
Fort Hancock, Tex	62	74	30	104	1,677	2.81	0	0
Fort Stockton, Tex	69	14	4	18	261	1.89	2	0
Fort Davis, Tex	221	435	68	503	2,276	17.16	12	6
Camp Pena Colorado, Tex	57	56	15	71	1,245	1.49	0	0
Camp Del Rio, Tex	63	33	12	45	714	1.45	1	0
Fort Clark, Tex	491	696	133	829	1,688	28.09	17	4
Fort McIntosh, Tex	144	163	28	191	1,326	5.86	1	1
Fort Ringgold, Tex	143	200	52	252	1,762	7.09	4	0
Camp at Eagle Pass, Tex	42	45	3	48	1,143	.96	0	0
Total	1,573	1,978	407	2,385	1,516	76.88	44	15
Total for the region	6,458	7,238	1,611	8,849	1,370	273.26	196	52

The force serving in this region during the year 1886 consisted of portions of 8 regiments of cavalry and 19 regiments of infantry. There were also 3 companies of Indian scouts, but they are not included in computing the mean strength of the command, or any of the ratios given below.

The mean strength, including officers, was 6,458 men, of whom 5,559 were white, and 899 colored. The total number of admissions to sick report was 8,849; of this number 5,051 were treated in quarters, and 3,798 in hospital. The number of men daily non-effective on account of sickness averaged in quarters 91, in hospital 182, total 273. The discharges for disability numbered from quarters 58, from hospital 138, total 196; and the deaths, in quarters 18, in hospital 34, total 52.

The admission rate per 1,000 of mean strength was 1,370 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 588. The ratio of deaths per 1,000 of strength was 8, in the proportion of 5 in hospital and 3 in quarters; that of discharges for disability was 30, in the proportion of 9 from quarters and 21 from hospital; and that of constant non-effectiveness on account of sickness 42, in the proportion of 14 in quarters and 28 in hospital.

The average duration of each case of sickness was, for those treated in quarters 7 days, in hospital 17 days, for all cases treated 11 days; and the total loss of time on account of sickness averaged 15 days for each man in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 92 days, and for those who died 26 days. The ratio of recoveries per 1,000 of all admissions to sick report was 962, of discharges for disability 22, and of deaths 6.

The admission rate per 1,000 of mean strength was highest in the southern group of posts, being 1,516; it was lowest in the middle group, being 1,170; in the northern group it was 1,476. While the admission rate is nearly as high in the northern group as in the southern, and very much higher than in the middle, it is interesting to note that the death rate per 1,000 of mean strength is 7 in the northern, as against 8 in the middle and 10 in the southern group; and the death rate per 1,000 of admissions to sick report is only 4 in the northern, as against 6 in the southern and 7 in the middle group.

The constant non-effective rate was lowest in the middle group, being 36 per 1,000 of mean strength, while it was 44 in the northern and 49 in the southern group.

The ratio of discharges for disability per 1,000 of mean strength was highest in the northern group, being 34, as against 27 in the middle and 28 in the southern group, while the average duration of treatment prior to discharge was longest in the southern group, being 103 days, as against 101 in the northern and 75 in the middle group. In respect of the duration of treatment, both among patients who died and those who recovered, the average was very nearly the same in each of the three groups.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region, and for each group therein:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of cause of admission in—			
				The region.	Each group.		
	Admissions.	Deaths.	Discharges.		Northern.	Middle.	Southern.
Injuries	1,611	17	27	1	1	1	1
Diseases of the digestive system	1,259	8	13	2	2	2	4
Diseases of the respiratory system	1,094	6	14	3	3	3	6
Diarrhœal diseases	976	.....	7	4	4	4	2
Malarial diseases	607	1	2	5	11	6	3
Diseases of the integumentary system	523	.....	2	6	7	7	5
Diseases of the nervous system	520	5	20	7	5	5	9
Venereal diseases	488	.....	22	8	6	8	7
Dietic diseases	371	.....	1	9	10	9	8
Constitutional diseases	370	1	19	10	8	10	12
Diseases of the locomotor system	368	.....	18	11	9	11	10
Diseases of the eye	152	.....	7	12	12	12	11
Diseases of the circulatory system	68	5	21	13	13	15	14
Diseases of the reproductive system	66	.....	7	14	14	13	17
Zoögenous diseases	59	.....	1	15	19	16	13
Diseases of the ear	56	.....	5	16	15	17	16
Diseases of the urinary system	46	2	3	17	18	14	20
Diseases of the lymphatic system	40	.....	1	18	16	19	18
Specific febrile and acute infectious diseases	40	6	.....	19	17	18	15
Parasitic diseases	14	.....	.....	20	24	21	19
Septic diseases	12	.....	.....	21	22	20	22
Typho-malarial fever	9	1	.....	22	21	.....	21
Diseases of the nose	9	.....	2	23	20	22	23
Developmental diseases	2	.....	4	24	23	.....	24
Unclassified	95	.....	.....	....	.....	.....	.....
Total deaths	.....	52	.....	....	.....	.....	.....
Total discharges	.....	.....	196	....	.....	.....	.....
Total cases	8,849	.....	.....	....	.....	.....	.....

SPECIAL DISEASES.—For *pneumonia* the admission rate was 2.45 per 1,000 of mean strength in the northern group, 1.64 in the middle, and 1.27 in the southern; for *bronchitis* it was 66.61 in the northern, 66.04 in the middle, and 25.43 in the southern; for *catarrh and common colds* it was 150.80 in the northern, 79.98 in the middle, and 61.67 in the southern; for *articular rheumatism* it was 73.15 in the northern, 45.53 in the middle, and 33.06 in the southern; for *diarrhœa (acute and chronic)* it was 135.68 in the northern, 103.36 in the middle, and 165.92 in the southern; for *dysentery (acute and chronic)* it was 2.86 in the northern, 11.48 in the middle, and 32.42 in the southern; for *paroxysmal (malarial) fevers* it was 44.54 in the northern, 70.96 in the middle, and 206.61 in the southern; for *typhoid fever* it was 3.27 in the northern, 1.64 in the middle, and 7.63 in the southern.

Of the class of *specific febrile and acute infectious diseases* 40 admissions to sick report, or a rate of 6.19 per 1,000 of mean strength, were reported in the whole region during the year, and all but one occurred among the white troops; there was one admission for *mumps* in the case of a colored soldier.

Typhoid fever caused 24 admissions, 17 of which occurred at two posts, Fort Assiniboine, Mont., which reported 6 cases, and Fort Davis, Tex., which reported 11. Forts Keogh, Meade, Niobrara, Robinson, Sidney, Reno, and Bliss, each had one case. Six of the 24 cases proved fatal.

The post surgeon at Fort Assiniboine, Assistant Surgeon H. G. Burton, in reporting the first of the series of cases which occurred at that post, says, under date of August 31:

The *post-mortem* examination in the case of Private J. C. showed general peritonitis to be the cause of the collapse and death. The ileum presented the typical appearances of typhoid fever, there being extensive ulceration of Peyer's glands. Al-

though there was no complete perforation of the intestine, many of the glands had sloughed down to the peritoneum, thus lighting up the inflammation. Thus far I have not been able to trace the infection to its source. This is the first case of disease since I have been stationed here that has presented the typical symptoms of typhoid fever, although it has been feared that the continued fever prevailing here every fall would eventually be replaced by typhoid fever, as in many cases true typhoid has replaced the so-called mountain fever of this region.

In October the post surgeon at Fort Sidney, Assistant Surgeon C. Ewen, remarks:

Typhoid fever is prevalent in the vicinity of the post and throughout this section of country. While some cases have been very severe, it has generally been of a mild type. It is sometimes called mountain fever, but I can not see that it differs from typhoid fever elsewhere, except that many cases are of a milder character, while others are as severe as in other localities.

The post surgeon at Fort Davis, Surgeon W. H. Gardner, in his report for August, says:

During the month several cases of typhoid fever have occurred, the original case having been transferred from Fort Stockton, Tex., and some other cases were recruits from Jefferson Barracks. There has been a large increase in the cases of intermittent fever, due in my opinion to the very moist and hot weather; the cases from C and M troops, Third Cavalry, alone numbering 25. One of these troops has lately arrived at this post from Fort Hancock, and the other from Camp Peña Colorado, Tex., which very likely will account for the amount of sickness among them, as they are not yet acclimated.

Small-pox caused only 3 admissions, and *varioloid* 2, in the whole region during the year; a rate so small as to indicate that the troops were very thoroughly protected by vaccination, especially in view of the fact that many of the stations have about them a large population of Mexicans, among whom vaccination is very little practiced, and small-pox is rarely entirely absent. The cases of small-pox all occurred at Fort Davis, Tex., and the cases of varioloid at Fort McIntosh. None of them proved fatal. In the month of January the post surgeon at Fort Davis writes:

Some cases of small-pox have occurred among the Mexicans in the town surrounding the post, and one case among the soldiers of the garrison. This man, at the time small-pox was discovered on him (January 9), was sick in hospital with constitutional syphilis. He was isolated at once in a tent 200 or 250 yards up the cañon behind the hospital, and an attendant who had suffered from small-pox detailed to guard him, and a yellow flag placed conspicuously on the tent. The ward of the hospital, in which the man had been, was at once emptied of patients, all the bedding disinfected and aired, and the furniture and ward cleaned and fumigated. The officers, soldiers, women, and children of the post were all examined, and those that needed it were revaccinated at once.

Notwithstanding these precautions, a second case occurred in March and a third in April. At Fort Stockton, in January, Assistant Surgeon Carter says:

The epidemic of small-pox, referred to in my last report, still prevails in the vicinity of the post, especially among the Mexicans, though several American families, one or two in town and one living just northeast of the post and but a short distance from the reservation, have had the disease. It is estimated that about 40 or 45 deaths have occurred in this vicinity from this disease since its appearance. * * *

Concerning an outbreak of *purulent conjunctivitis* at Fort Stanton, in February, the post surgeon, Assistant Surgeon M. E. Taylor, remarks:

The origin of the outbreak of purulent conjunctivitis can only be conjectured; it is not known. * * * The altitude of the post is considerable, the atmosphere is rare, and the consequent variation of temperature between day and night is great. One is chilled in a few minutes when out about sunset. The post is in a narrow valley, in a tunnel, as it were, at one extremity of which rises, to the height of perpetual snow, a group of mountains, the Sierra Blanca range. After the fall of the year the rains cease almost altogether. When the sun has heated the atmosphere of the valley each morning, a draught from the cold mountain-tops is established, constituting

a wind which is rarely so mild as to be denominated a breeze; it more often blows with the violence of a hurricane. * * * Through the influence of the winds the atmosphere is full of dust, and other impurities mingled with, and supported by, dust particles. Not enough of moisture is precipitated to cleanse the air. It is known to observing people that rain-water stored in receptacles here will take on putrefaction very promptly. I believe that the atmosphere contains impurities swept from the ground, that confer upon susceptible individuals the purulent conjunctivitis from which several soldiers have been suffering at this post. The circulatory disturbances caused by the direct influence of the cold winds lend assistance. The very large herds of cattle to be seen constantly in this narrow valley deposit an immense amount of filth, part of which is taken up into the atmosphere above the surface of the ground by the winds. Purulent conjunctivitis is not confined to this post; it is elsewhere in the vicinity.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Great Plains during the year comprised the months of August, September, and October in the northern group; March, April, and May in the middle group; and July, August, and September in the southern group. During the period of greatest sickness in the northern group the number constantly non-effective averaged 48 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, injuries, venereal diseases and alcholism, and rheumatism. In the middle group during the period of greatest sickness the daily non-effective rate was 40 per 1,000 of mean strength, and the principal causes were injuries, venereal diseases and alcoholism, rheumatism and bronchitis. In the southern group the daily average of non-effectiveness was 57 per 1,000 of mean strength, and the prevailing causes were venereal diseases and alcoholism, malarial fevers, injuries, and diarrhœal diseases (the acute form predominating).

August showed a greater number of admissions to sick report than any other month of the year in the northern group, March in the middle group, and July in the southern, the rates per 1,000 of mean strength being 161, 120, and 173, respectively; but the number constantly non-effective on account of sickness was greatest in March in the northern and middle groups, and in August in the southern, the rates per 1,000 of mean strength being 49, 43, and 59.

The greatest number of deaths occurred in November in the northern group, in May and September (each month furnishing the same number) in the middle group, and in December in the southern: they numbered respectively 4, 4, and 5.

The period of *least sickness* appears to have been during the months of May, June, and July in the northern group, June, July, and August in the middle group, and October, November, and December in the southern group, the constant non-effective rates being 39, 33, and 44 respectively.

In the above computations all cases of disease or injury have been included, but if cases of injury, venereal disease and alcoholism are excluded from the calculation, very different results from those given above are obtained, and it is found that the period of greatest sickness comprised the months of February, March, and April in the northern group, March, April, and May in the middle group, and July, August, and September in the southern group. In the first group the prevailing diseases were rheumatism, catarrh and common colds, bronchitis, and diseases of the integumentary system, and the constant non-effective rate was 33 per 1,000 of mean strength, that for the whole year being 29. In the second group the prevailing causes of sickness were rheumatism, bronchitis, and malarial fevers; the constant non-effective rate was 24 per 1,000 of mean strength, that for the whole year being

22. In the third group the prevailing causes of sickness were malarial fevers, diarrhœal diseases, diseases of the integumentary system, and typhoid fever, and the constant non-effective rate was 38 per 1,000 of mean strength, that for the year being 31.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness was during the months of May, June, and July in both the northern and middle groups, and January, February, and March in the southern; the constant non-effective rates being, respectively, 26, 21, and 29 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—In the northern group *Fort McKinney* furnished the highest admission rate for the year, 2,875 per 1,000 of mean strength; *Camp Poplar River* the highest constant non-effective rate, 65 per 1,000; *Fort Assinniboine* the highest death rate, 19 per 1,000.

In the middle group *Fort Sidney* reported the highest admission rate, 1,790 per 1,000, and *Fort Robinson* both the highest constant non-effective rate, and the highest death rate, 76 and 26 respectively.

In the southern group *Fort Davis* had the highest admission rate, 2,276 per 1,000, as well as the highest constant non-effective rate, 78 per 1,000; but the highest death rate, 34 per 1,000, occurred at *Fort Bliss*. Fort Davis also gave a very high death rate, 27 per 1,000.

COLORED TROOPS.—The mean strength of colored troops serving in the region of the Great Plains was 899; 351 in the northern and 548 in the middle group. There were no colored troops stationed in the southern group during the year.

In the middle group both the admission rate and the constantly non-effective rate were a little higher for the colored than for the white troops; but in the northern group a very noticeable difference is found to exist. In that group the constant non-effective rate of the colored soldier is nearly one-fourth larger than that of the white, and the admission rate is almost twice as large.

Excluding from the calculation injuries, venereal diseases, and alcoholism, the contrast between the two races is still more striking, the colored troops in the northern group giving a constant non-effective rate of 40 per 1,000 of mean strength, while the white show only 27 per 1,000. In the middle group the ratios are very nearly the same for both races, as was the case when all causes of admission were counted.

In the northern group, during the months of January, February, and March, the monthly admission rate for colored troops, excluding the cases mentioned above, was three times that for the white, being 239 per 1,000 of mean strength for the former, and 79 for the latter. In this group articular rheumatism is the disease in the rate of occurrence of which the greatest disproportion between the two races is observed, the colored soldier showing an admission rate for the year of 321.94, or more than ten times that of the white, which was 31.49; and for the months of January, February, and March, the period of greatest sickness among the colored troops, their monthly admission rate averaged 43.05, while that for the white troops was 2.68. It is interesting to contrast these figures with those for muscular rheumatism, which only caused an admission rate of 25.64 for the colored troops during the year, while that for the white was 69.66.

Catarrhs and common colds gave an admission rate of 398.86 per 1.000 of mean strength for the colored, and 109.26 for the white soldier. Tonsillitis caused a rate of 233.62 for the colored, and 37.69 for the white.

In the middle group, as has been stated above, there was very little difference between the two races in respect of their rates of admission to sick report and constant non-effectiveness.

INDIAN SCOUTS.—The Indian scouts in this region had a mean strength of 88 for the year; all but 5 of them were constantly in the middle group. Among them there were but 22 admissions to sick report for all causes, 18 for disease (chiefly malarial fevers) and 4 for injuries. One death was reported, that of an Indian who was run over and crushed by a railway train.

CIVILIANS WITH THE COMMAND.—With a mean strength of 6,546 officers and enlisted men serving in the region of the Great Plains, there was constantly present during the year an average of 3,034 civilians. Of this number 652 were adult males, 1,129 adult females, and 1,253 children. The admissions to sick report numbered for the adult males 273, and the deaths 5; for the adult females 1,440, and the deaths 4; for the children 999, and the deaths 30; or an aggregate of 2,712 admissions and 39 deaths.

The period of *greatest sickness* among the civilian attachés, both adults and children, covered the month of March in the northern group of posts, and the months of February and March in the middle group, the prevailing diseases in both groups being those of the respiratory organs, epidemic influenza, and diseases of the digestive system, in the order of relative frequency of occurrence. In the southern group the greatest amount of sickness among civilians was reported during the months of July, August, September, and October, the prevailing diseases being those of the digestive system, malarial diseases, and diseases of the nervous system. In this group, as in the two mentioned above, the period of greatest sickness was the same for both adults and children.

The *least sickness* among civilians was reported during the month of May in the northern group, the months of October and November in the middle group, and November and December in the southern group.

REGION OF THE CORDILLERAS.

The region thus originally designated by Prof. J. D. Whitney, of Cambridge, comprises all that vast area stretching from the northern to the southern boundary of the country, and from the Rocky Mountains on the east to the Cascade range and the Sierra Nevada on the west. It may be roughly described as a high plateau, whose elevation, greatest through its center from east to west, gradually falls off toward the north and south from that central line. This plateau has built upon it a great number of ranges of mountains and isolated volcanic cones, and is further diversified by numerous cañons, valleys, basins, sinks, and parks. Over much of the area the elevation ranges from 6,000 up to 10,000 feet. A few military stations located in the extreme northern and southern portions of the region have an elevation ranging from 3,000 down to less than 1,000 feet, but, with these exceptions, the posts in the region of the Cordilleras are over 4,000 feet above the level of the sea. The northern parts of the region and the higher mountains enjoy a tolerably heavy rain-fall, so that they are more or less covered with forests. The southern portion and the valleys, except those in the northern part of the area, receive comparatively little rain and are generally treeless. The distribution of temperature is quite similar; upon the higher mountains an almost arctic climate prevails, while the southern and lower parts of this area are among the hottest portions of the United States.

In this region there are 35 military stations which, for purposes of comparison, have been divided into three groups, the northern, middle, and southern. The following table shows the average of all the

observations reported from each group on temperature, rain-fall, and relative humidity of the atmosphere:

Groups of stations in the region of the Cordilleras.	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Northern	101	—18	23	47.7	61	15.98
Middle	94	— 8	25	47.1	59	16.62
Southern	108	9	32	61.7	55	13.71

The following table shows the stations in the region of the Cordilleras, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharged for disability.	Deaths.
		Disease.	Injury.	Total				
Northern group:								
Fort Spokane, Wash	221	140	50	190	860	7.61	4	.....
Fort Cœur d'Alene, Idaho	249	164	64	228	916	6.72	3	1
Fort Missoula, Mont	174	268	74	342	1,966	6.74	7	.....
Fort Walla Walla, Wash	295	187	70	257	871	9.43	4	4
Helena, Mont	3	12	....	12	4,000	.20	.....	.....
Fort Ellis, Mont	90	75	25	100	1,111	2.87	9	1
Boise Barracks, Idaho	102	93	44	137	1,343	3.80	3	.....
Fort Washakie, Wyo	129	100	30	130	1,008	5.04	1	.....
Camp Sheridan, Wyo	20	16	5	21	1,050	.28	.....	.....
Field	66	16	3	19	287	.29	.....	.....
Total	1,349	1,071	365	1,436	1,064	42.98	31	6
Middle group:								
Fort Klamath, Oreg	84	42	23	65	774	2.74	1	.....
Fort Bidwell, Cal	85	77	35	112	1,318	2.13	.....	.....
Fort McDermit, Nev	39	22	2	24	615	.19	1	.....
Fort Fred Steele, Wyo	86	46	16	62	721	2.30	1	.....
Fort Bridger, Wyo	139	104	25	129	928	3.59	3	.....
Fort Halleck, Nev	22	13	3	16	727	.37	1	1
Fort Douglas, Utah	450	361	54	415	922	14.98	18	3
Fort Du Chesne, Utah	89	79	22	101	1,135	2.87	6	1
Fort Crawford, Colo	80	67	18	85	1,062	3.07	5	.....
Fort Lewis, Colo	343	334	84	418	1,219	15.76	10	.....
Fort Union, N. Mex	146	143	30	173	1,185	6.07	.....	4
Fort Wingate, N. Mex	208	244	76	320	1,538	11.01	11	1
Fort Marcy, N. Mex	62	64	14	78	1,258	2.14	4	.....
Camp Medicine Butte, Wyo	43	40	14	54	1,256	1.84	1	1
Camp Pilot Butte, Wyo	91	82	35	117	1,286	3.04	3	.....
Field	74	60	35	95	1,284	1.46	.....	3
Total	2,041	1,778	486	2,264	1,109	73.56	65	14
Southern group:								
Fort Mojave, Ariz	45	40	6	46	1,022	1.53	3	2
Whipple Barracks, Ariz	119	106	23	129	1,084	2.72	1	3
Fort Verde, Ariz	66	68	11	79	1,197	2.28	1	.....
Fort Apache, Ariz	198	325	58	383	1,934	8.03	3	2
Fort McDowell, Ariz	61	52	13	65	1,066	1.49	.....	.....
San Carlos, Ariz	39	39	6	45	1,154	1.84	.....	1
Fort Thomas, Ariz	174	178	28	206	1,184	7.92	6	3
Fort Bayard, N. Mex	219	168	40	208	950	9.00	4	2
Fort Cummings, N. Mex	67	17	3	20	299	1.02	.....	.....
Fort Selden, N. Mex	51	67	14	81	1,588	3.08	3	1
Fort Grant, Ariz	248	301	76	377	1,520	13.06	3	5
Fort Bowie, Ariz	164	56	23	79	482	5.27	1	3
Fort Lowell, Ariz	136	216	27	243	1,787	9.54	9	1
Fort Huachuca, Ariz	237	291	90	381	1,608	15.69	21	7
Field	854	399	100	499	584	15.25	8	5
Total	2,678	2,323	518	2,841	1,061	97.73	63	35
Total for the region	6,068	5,172	1,369	6,541	1,078	214.27	159	55

The force serving in this region during the year 1886 consisted of portions of 16 regiments of infantry and of 8 regiments of cavalry, together with 1 battery of artillery; there were also 2 battalions of Indian scouts, but they are not included in computing the mean strength of the command, or any of the ratios given below.

The mean strength, including officers, was 6,068 men, of whom 5,410 were white and 658 colored. The total number of admissions to sick report was 6,541; of this number, 3,267 were treated in quarters, 2,661 in hospital, and 613 in the field. The number of men daily non-effective on account of sickness averaged in quarters 64, in hospital 133, in field 17; total 214. The discharges for disability numbered from quarters 49, from hospital 102, from the field 8; total 159; and the deaths, in quarters 17, hospital 30, in the field 8; total 55.

The admission rate per 1,000 of mean strength was 1.078 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 439. The ratio of deaths per 1,000 of mean strength was 9, in the proportion of 5 in hospital, 3 in quarters, and 1 in the field; that of discharges for disability was 26, in the proportion of 17 from hospital, 8 from quarters, and 1 from the field; and that of constant non-effectiveness on account of sickness was 35, in the proportion of 22 in hospital, 10 in quarters, and 3 in the field.

The average duration of each case of sickness was, for those treated in quarters 7 days, in hospital 18 days, in the field 10 days, for all cases 12 days; and the total loss of time on account of sickness averaged 13 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 86 days, and for those who died 28 days. The ratio of recoveries per 1,000 of all admissions to sick report was 952, of discharges for disability 24, and of deaths 8.

The admission rate per 1,000 of mean strength was highest in the middle group of posts, being 1.109; while for the northern and southern groups the ratios were nearly equal, 1.064 and 1,061 respectively.

The death rate was highest in the southern group, being 13 per 1,000 of mean strength, and lowest in the northern, 4 per 1,000. For the middle group it was 7. The death rate per 1,000 of admissions to sick report was, for the northern group, 4; the middle, 6; and the southern, 12.

The constant non-effective rate was lowest in the northern group, being 32 per 1,000, while it was 36 in both the middle and southern.

The ratio of discharges for disability per 1,000 of mean strength was highest in the middle group, being 32, as against 23 in the northern and 24 in the southern, while the average duration of treatment prior to discharge was longest in the middle group, being 97 days, as against 74 in the northern and 79 in the middle group. The average duration of treatment for those who died was longest in the northern group, being 49 days, as against 41 in the middle and 20 in the southern group. In respect of the duration of treatment among patients who recovered and were returned to duty the average was very nearly the same in each of the three groups.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region, and for each group therein:

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in—			
					Each group.		
	Admissions.	Deaths.	Discharges.	The region.	Northern.	Middle.	Southern.
Injuries	1,369	21	17	1	1	1	1
Diseases of the digestive system	821	1	9	2	2	2	3
Diarrhœal diseases	817	4	2	3	3	4	2
Diseases of the respiratory system	581	10	17	4	4	3	5
Malarial diseases	481	2	.....	5	10	6	4
Diseases of the nervous system	445	3	9	6	7	5	6
Diseases of the integumentary system	357	.....	3	7	5	7	7
Constitutional diseases	305	1	17	8	6	10	8
Venereal diseases	272	.....	25	9	11	8	9
Dietic diseases	260	.....	1	10	8	9	11
Diseases of the locomotor system	231	.....	11	11	9	11	10
Diseases of the eye	117	.....	9	12	12	12	12
Diseases of the circulatory system	59	6	14	13	14	16	14
Diseases of the reproductive system	57	1	4	14	13	18	15
Zoögenous diseases	49	.....	.....	15	17	13	20
Diseases of the lymphatic system	49	.....	.....	16	15	15	16
Specific febrile and acute infectious diseases	46	4	.....	17	19	21	13
Diseases of the urinary system	42	.....	6	18	16	14	17
Diseases of the ear	36	.....	5	19	18	19	19
Typho-malarial fever	29	1	.....	20	.....	17	18
Septic diseases	13	.....	.....	21	20	20	21
Parasitic diseases	7	.....	.....	22	.....	23	22
Diseases of the nose	7	.....	.....	23	22	24	23
Developmental diseases	4	.....	6	24	21	22	.....
Unclassified	87	1	4	.....	.....	.....	.....
Total deaths	.....	55	.....	.....	.....	.....	.....
Total discharges	.....	.....	159	.....	.....	.....	.....
Total cases	6,541	.....	.....	.....	.....	.....	.....

SPECIAL DISEASES.—For *pneumonia* the admission rate was 0.74 per 1,000 of mean strength in the northern group, 1.47 in the middle, and 4.85 in the southern group; for *pulmonary phthisis*, 1.48 in the northern group, 2.94 in the middle, and 4.48 in the southern group; for *bronchitis*, 47.44 in the northern group, 47.04 in the middle, and 36.22 in the southern group; for *catarrh and common colds*, 33.36 in the northern group, 54.88 in the middle, and 26.14 in the southern group; for *articular rheumatism*, 57.08 in the northern group, 44.59 in the middle, and 43.32 in the southern group; for *muscular rheumatism*, 48.18 in the northern group, 29.40 in the middle, and 25.77 in the southern group; for *diarrhœa (acute and chronic)*, 109.71 in the northern group, 83.29 in the middle, and 142.64 in the southern group; for *dysentery (acute and chronic)*, 7.41 in the northern group, 0.98 in the middle, and 31.37 in the southern group; for *cholera morbus*, 1.48 in the northern group, 4.41 in the middle, and 4.11 in the southern group; for *paroxysmal (malarial) fevers*, 46.27 in the northern group, 60.75 in the middle, and 109.78 in the southern group; for *typhoid fever*, 2.22 in the northern group, 2.45 in the middle, and 5.97 in the southern group; for *typho-malarial fever*, nothing in the northern group, 7.35 in the middle, and 5.23 in the southern group.

Of the class of *specific febrile and acute infectious diseases*, 46 admissions to sick report, or a rate of 7.58 per 1,000 of mean strength, were reported in the whole region during the year. There were 4 deaths, all from typhoid fever. Among the colored troops there were 10 admissions and 1 death.

Typhoid fever caused 24 admissions and 4 deaths; 2 of the cases with 1 death occurred among colored troops; Fort Huachuca, Ariz., reported 7 cases; Fort Douglas, Utah, and Fort Grant, Ariz., 4 each; Fort Washakie, Wyo., and Fort Bayard, N. Mex., 2 each; and Forts Walla Walla, Wash., and Union, N. Mex., San Carlos, and Forts Thomas and Lowell, Ariz., 1 each.

Epidemic influenza caused 16 admissions, all at Fort Apache, Ariz.; they were equally divided between the white and colored troops, each furnishing 8 cases, none of which were fatal.

Diphtheria.—One case of this disease was reported in the command at Fort Selden, N. Mex., the patient being the post surgeon, Acting Assistant Surgeon C. A. Sewell.

Seven other cases occurred during the course of the outbreak in the families of officers stationed at the post, but none among the troops or the families of enlisted men. Of these 8 cases only 1 proved fatal, that of a child four years old, the second patient attacked. After the fatal termination of the second case, Acting Assistant Surgeon Sewell reports on March 31, as follows:

> Two cases of diphtheria having occurred among the children of the post, with one death, the following precautions were taken to avoid its spread: (1) The body was buried within twelve hours after death. (2) All articles in contact with patient were burnt. (3) Fumigations with sulphurous acid fumes of all the rooms occupied. (4) Isolation of all persons likely to become contaminated. (5) Lime white-washing of the sick chamber. (6) Saturated solution of iron sulphate freely used in water-closets and other places about the post. It is regarded as probable that the disease did not originate here, but was imported either from one of the Mexican towns close by, or the railroad cars traveling by the post every day.

Notwithstanding these precautions, the disease continued to spread. On April 30 Assistant Surgeon L. S. Tesson writes:

> The 2 cases of diphtheria reported last month were followed early in the present month by 2 others, children, in the same family. On the 14th instant the mother of the children affected and the post surgeon were taken down with the same disease.

On the 15th a case developed in a neighboring family and another on the 18th, after which no further cases were reported.

Measles caused but 1 admission to sick report among the troops. This case, which terminated in recovery, occurred at Fort Grant, Ariz., but the disease was reported to be prevalent among the civilians at or near this post, Fort Wingate, N. Mex., and Fort Bidwell, Cal. The post surgeon at Fort Bidwell, Acting Assistant Surgeon G. M. Kober, in his report for March, says:

> The prevalent disease of the community is measles. Since my last report this disease has become epidemic, affecting nearly every family in the valley, and also the Indians. Five deaths have occurred among the latter class, adults and children. The condition of these Indians is distressing in the extreme, for, owing to this sickness, they are unable to provide food, and are actually suffering for want of food, shelter, and care, although the officers and citizens are doing all they can for their relief.
>
> The disease has invaded the post, or rather the married soldiers' families, 22 children and 1 adult female being affected. The enlisted men have thus far escaped.

Two cases of *mumps* were reported, 1 at Fort Apache, Ariz., and 1 in the field; also 2 cases of *whooping-cough*, 1 at Fort Cœur d' Aléne, Idaho, and 1 at Fort Mojave, Ariz.; no deaths. The latter disease was reported to be epidemic among the children at the post of Fort Bayard, N. Mex., in June.

Two cases of *scarlet fever* occurred among the children at Fort Marcy, N. Mex., and a very severe type of the disease was reported to be epidemic in the neighboring town of Santa Fé from January to June.

The diagnosis of *typho-malarial fever* was given in 29 admissions to sick report, with 1 death, during the year. Of these cases 13 were reported from Fort Lewis, Colo., but they all originated at a summer camp 37 miles from that post at the junction of the San Juan and La Plata Rivers. The medical officer of the camp, Acting Assistant Surgeon A. I. Comfort, in his report for September, says:

At the close of last month 2 cases of mountain fever remained under treatment, and prior to the 13th instant 10 new cases appeared upon the register of patients, all of Company H, Twenty-second Infantry. These cases, as they originally bore no symptoms of a typhoid character, were regarded as a remittent fever with adynamic tendencies, as described by Surgeon Smart of the Army, and were diagnosed as such prior to their transfer to Fort Lewis, Colo. Their subsequent history while under treatment at that post has developed unmistakable typhoid symptoms; consequently their diagnosis has been changed to that of typho-malarial fever as described by Surgeon Woodward of the Army. Upon the departure of Company H, on the 13th instant, the rainy season practically ceased, the La Plata receded to its original limits and lost its obnoxious odor, and no cases of mountain fever have appeared in Company D. It is remarkable that the only cases of well-marked typho-malarial fever occurring among the troops serving on the La Plata River during the present summer have appeared during the rainy season, and in Company H, Twenty-second Infantry. No sickness of this character has occurred among the officers, or in the detachment of cavalry, or among the civilians serving with the command, while of the enlisted men of Company H about 33 per cent. have been affected with the disease. It seldom rains in the valley of the La Plata River except during the rainy season; consequently a large amount of organic matter collects upon its water-sheds and is at this time washed into the stream. Several hundred head of cattle were in early spring mired in this river, and no doubt to these circumstances may be attributed the horrid stench of the stream mentioned by the undersigned in his last consolidated report of the Medical Department.

At Fort Thomas, Ariz., 9 cases of disease were reported as *typho-malarial fever* during the months of September, October, and November. Acting Assistant Surgeon A. P. Frick, in a special report dated October 31, says:

Proportionately to the size of the garrison, and especially in proportion to the number of men in the companies to which these diseases were confined, there came under treatment during this month and the latter part of September a large group of very severe cases of remittent and typho-malarial fevers. These cases all occurred among the white troops who came from Wyoming Territory to this post about the last of July of this year.

Of the two companies of white troops, viz, B and D of the Ninth Infantry, B company contributed by far the greater number, and graver cases. B company has been quartered in comfortable adobe barracks ever since its arrival here, and has had no field service, while D company has been in tents, and was out on a scout in September. All ordinary sanitary precautions were carefully observed at the barracks (as in the tents), and disinfectants freely used. Patient No. 294 had been on detached service at San Carlos, whence he was transferred to this hospital in August, with acute diarrhœa, returned to duty, participated in the scout with his company, and afterwards was admitted to hospital, from quarters, with the diagnosis of typho-malarial fever. This is the only case of this disease contributed by D company, Ninth Infantry. Patient No. 311 was transferred to this hospital from the post of San Carlos, with the diagnosis of remittent fever, but, since here, he has shown very decided adynamic and ataxic symptoms, with delirium, carphologia, and involuntary discharges from the bowels.

There was considerable mental hebetude in all the cases diagnosed as typho-malarial fever, and in several of the remittent-fever cases; slight diarrhœa occurred in only three cases. In one case only was there an eruption, which consisted of very small red patches over the chest and abdomen during the second week, but they were irregular in contour, and did not resemble the rose-colored eruption of enteric fever. There was also in this case (at the same time) a papular eruption, which was confined to the forehead. Iliac tenderness was markedly absent in all the cases, except, of course, in a case complicated with peritonitis, which commenced with great pain and tenderness in the right iliac region, afterward extending over the entire abdomen, high temperature, tympanitis, and retention of urine. Most of the cases had more or less vomiting, some not even retaining milk and lime water.

It seems a noteworthy fact that, of all the malarial cases that have occurred this month, only one has assumed the intermittent type.

The facts herewith reported in connection with this group of cases strongly suggest certain sanitary precautions, which should be kept in view in future, and the observ-

ance of which can well be recommended by the medical department: (1) The fact that all these cases occurred among the unacclimated shows the great danger to the health of troops that attaches to a transfer from a cold to a hot and malarious climate in midsummer. While it might be said that the balance of the garrison at this post, consisting of colored troops, would be naturally less affected by a malarious climate than white troops, it is also a fact that white citizens residing at or near this post, and who are duly acclimated, are as free from typho-malarial cases as the colored soldiers. (2) The marked immunity obtained by the men of D company, Ninth Infantry, as compared with those of B company of the same regiment, and the different conditions to which these two companies were subjected, form a most excellent and rational basis upon which to strongly recommend that, in future, garrisons at posts like this may be sent during the heated term to some elevated summer camp, such as was occupied by D company, Ninth Infantry, during last September.

It is a question whether had D company remained continuously at post, and under canvas, they would not have been as seriously afflicted as is B company, which did remain continuously in barracks, for, as may be seen by referring to the consolidated report from this post of last August, the preponderance of malarial diseases then was with D company, as it is now with B company. The inference is plain that the health of D company was improved by their march and summer camp, short though the period of their sojourn away from this post was.

The diagnosis of typho-malarial fever was given in two cases occurring at Fort Mojave, Ariz., and one each at Forts Bowie, Lowell, and Huachuca, Ariz.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Cordilleras during the year comprised the months of June, July, and August in the northern group, September, October, and November in the middle group, and October, November, and December in the southern group. During the period of greatest sickness in the northern group, the number constantly non-effective averaged 34 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, injuries, venereal diseases and alcoholism, and pulmonary phthisis. In the middle group, during the period of greatest sickness, the daily non-effective rate was 41 per 1,000 of mean strength, the principal causes being injuries, typho-malarial fever (cases so reported), and venereal diseases and alcoholism. In the southern group the daily average of non-effectiveness was 41 per 1,000 of mean strength, and the prevailing causes were injuries, malarial fevers, and venereal diseases and alcoholism.

August showed a greater number of admissions to sick report than any other month of the year in the northern group, January in the middle, and June in the southern group, the rates per 1,000 of mean strength being 112, 111, and 102, respectively; but the number constantly non-effective on account of sickness was greatest in December in the northern group, October in the middle, and November in the southern group, the rates per 1,000 of mean strength being 37, 43, and 43, respectively.

The period of *least sickness* comprised the months of September, October, and November in the northern group, June, July, and August in the middle group, and January, February, and March in the southern group, the constant non-effective rates being 27, 30, and 31, respectively.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation it is found that, while the period of greatest sickness remains the same in the northern and middle groups, it changes to September, October, and November in the southern group, and the constant non-effective rate is greatly diminished. In the first group, excluding the cases mentioned above, the prevailing diseases were, pul-

monary phthisis, diarrhœal diseases, diseases of the integumentary system, and articular rheumatism, and the constant non-effective rate was 20 per 1,000 of mean strength, that for the whole year being 18. In the second, the prevailing causes of sickness were typho-malarial fever (cases so reported), malarial fever, diarrhœal diseases, and articular rheumatism, and the constant non-effective rate was 28 per 1,000 of mean strength, that for the whole year being 24. In the third group the prevailing causes of admission were malarial fever, diarrhœal diseases, typho-malarial fever, articular rheumatism, and typhoid fever, and the constant non-effective rate was 28 per 1,000 of mean strength, that for the year being 25.

Excluding injuries, venereal diseases, and alcoholism the period of least sickness remains the same as when all diseases and injuries were included, but the constant non-effective rates are about one third less, being for the three groups respectively 16, 21, and 20 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—In the northern group, *Fort Missoula, Mont.*, furnished the highest admission rate for the year, 1,966 per 1,000 of mean strength; *Fort Missoula, Mont.*, and *Fort Washakie, Wyo.*, the highest constant non-effective rate, each having the same, 39 per 1,000; *Fort Walla Walla, Wash.*, the highest death rate, 14 per 1,000.

In the middle group, *Fort Wingate, N. Mex.*, furnished both the highest admission and constant non-effective rates, 1,538, and 53 per 1,000, respectively; *Fort Halleck, Nev.*, the highest death rate, 45 per 1,000.

In the southern group, *Fort Apache, Ariz.*, furnished the highest admission rate, 1,934 per 1,000; *Fort Lowell, Ariz.*, the highest constant non-effective rate, 70 per 1,000; *Fort Mojave, Ariz.*, the highest death rate, 44 per 1,000.

As stated above, the highest death rates for individual posts occurred at Fort Halleck, Nev., and Fort Mojave, Ariz., the former reporting 1 death, with a mean strength of 22, or a rate of 45 per 1,000, while at the latter 2 deaths occurred in a mean strength of 45, which gives a death rate of 44 per 1,000. To these figures, of course, no special significance can be attached, because of the smallness of the numbers involved, but at Fort Huachuca, Ariz., with a mean strength of 237, there were 7 deaths during the year, or a rate of 30 per 1,000 of mean strength, which, with the exception of the two first given, is the highest death rate reported from any post in the region.

COLORED TROOPS.—The mean strength of colored troops serving in the region of the Cordilleras was 658; 51 in the northern, 36 in the middle, and 571 in the southern group.

In the northern group the admission and constantly non-effective rates of the colored troops, counting all cases of disease and injury, were 1,078 and 36, respectively, per thousand of mean strength, as against 1,064 and 32 for the white troops. In the middle group these rates were, for the colored, 1,278 and 37, as against 1,106 and 36 for the white. In the southern group, where the mean strength of colored troops was much greater than in the other groups, and furnishes a more reliable basis for purposes of comparison, the difference is shown to be much greater, the admission rates per 1,000 of mean strength being 1,401 for the colored, as against 969 for the white troops, and the constantly non-effective rates 45 for the former and 34 for the latter.

Excluding from the calculation injuries, venereal diseases, and alcoholism, the constant non-effective rate of the colored troops in the northern group is shown to be less than that of the white, the rate of the former being 15 per 1,000 and the latter 18, while in the middle and southern groups it still remains higher for the colored troops than for

the white, being respectively 26 and 29 for the former, against 24 for the latter in both groups.

Excluding the cases mentioned above, the monthly admission rate of the colored troops in the northern group during March and April averaged 127 per 1,000 of mean strength, or nearly three times that of the white troops, which was 49 per 1,000 for the same period. The diseases in the rate of occurrence of which the greatest disparity between the two races is observed are neuralgia and headache, articular rheumatism, and muscular rheumatism; the colored soldier showing for these causes admission rates for the year of 137.25, 78.43, and 98.04 per 1,000 of mean strength, respectively, while those for the white soldier are only 47.77, 56.24, and 46.22. In the middle group during August, September, and October the monthly admission rate of the colored troops averaged 119, and that of the white 72, per 1,000 of mean strength. The diseases showing the greatest disproportion in rates of occurrence were catarrhs and common colds, malarial fevers, and diarrhœa, their rates for the year for the colored troops being respectively 305.56, 138.89, and 138.89, while for the white troops they were 50.37, 59.35, and 82.29 per 1,000 of mean strength. In the southern group the monthly admission rate of the colored troops during April, May, and June averaged 121 per 1,000 of mean strength, being more than double that of the white, which was only 57 per 1,000 for the same period. For catarrhs and common colds, pleuritis, bronchitis, diarrhœa, dysentery, and constipation, the colored soldier in this region gave admission rates for the year of 64.80, 12.26, 75.31, 187.39, 40.28, and 40.28 per 1,000 of mean strength respectively, while those for the white soldier are only 15.66, 1.90, 25.63, 130.52, 28.95, and 9.97.

INDIAN SCOUTS.—The Indian scouts in this region had a mean strength of 200 for the year, 6 in the northern group, 3 in the middle group, and 191 in the southern group. Neither admissions to sick report nor deaths were reported in the northern and middle groups. In the southern group 23 admissions, or a rate of 120 per 1,000 of mean strength, occurred, with 3 deaths, or a rate of 16 per 1,000 of mean strength. The causes of death were gunshot, 1; valvular disease of heart, 1; and of pulmonary phthisis, 1.

CIVILIANS WITH COMMAND.—With a mean strength of 6,068 officers and enlisted men serving in the region of the Cordilleras, there was constantly present during the year an average of 2,412 civilians. Of this number 612 were adult males, 824 adult females, and 975 children. The admissions to sick report numbered for the adult males 139, and the deaths 7; for the adult females 783, and the deaths 6; for the children 771, and the deaths 12; or an aggregate of 1,693 admissions and 25 deaths.

The period of *greatest sickness* among the civilian attachés comprised the month of March in the northern group of posts, February and March in the middle group, and June in the southern group; the prevailing diseases being those of the respiratory and digestive systems in the northern group, diseases of the respiratory organs, and measles, in the middle group, and diseases of the digestive organs, and whooping-cough, in the southern group.

The *least sickness* among civilians was reported during the month of June in the northern group, September in the middle group, and January in the southern group.

REGION OF THE PACIFIC COAST.

This region comprises the whole of the western border of the country lying between the Cascade Range and the Sierra Nevada on the east

and the Pacific Ocean on the west. The surface is broken by a complex range of mountains, known as the Coast Range, running parallel to the coast. East of this range is a great valley extending from Puget's Sound to the southern part of California, occupied in Oregon by the Willamette and other rivers, and in California by the Sacramento and San Joaquin. The whole region has a wet and a dry season, corresponding to the summer and winter of other parts of the country, but the amount of rain-fall is not by any means uniform over the whole area. The northern portion is excessively watered, the rain-fall in some seasons exceeding 100 inches per annum, while the southern part is, in general, extremely arid.

The region comprises areas of great diversity of elevation, rain-fall, and temperature, so that a strict classification can not be made without a very minute subdivision; but as the 13 military stations at present occupied are, with one exception, on or near the sea-coast, and none of them has an elevation of over 400 feet, it is thought to be sufficient for purposes of comparison to divide them into two groups, the northern and southern.

The following table shows the average of all the observations on temperature, relative humidity of the atmosphere, and rain-fall, reported from posts in this region during the year:

Groups of stations in the region of the Pacific coast.	Temperature (degrees Fahrenheit).				Average relative humidity.	Average rain-fall, inches.
	Average maximum.	Average minimum.	Average daily range.	Average annual.		
Northern	88	16	15	50.4	82	55.18
Southern	96	29	17	57.1	71	21.49

The following table shows the stations in the region of the Pacific coast, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Discharged for disability.	Deaths.
		Disease.	Injury.	Total.				
Northern group:								
Fort Townsend, Wash	54	51	9	60	1,111	1.44		
Fort Canby, Wash	73	42	7	49	671	2.08	1	1
Vancouver Barracks, Wash	497	376	104	480	966	16.89	8	6
Field	53	58	12	70	1,321	1.48		
Total	677	527	132	659	973	21.90	9	7
Southern group:								
Fort Gaston, Cal	38	27	7	34	895	.84	1	
Fort Mason, Cal	40	7	1	8	200	.07		
Alcatraz Island, Cal	90	47	9	56	622	2.27	1	1
Angel Island, Cal	76	49	11	60	789	1.93	5	
Presidio of San Francisco, Cal	254	169	54	223	878	8.53	6	4
Fort Winfield Scott, Cal	43	49	10	59	1,372	1.48		
Benicia Barracks, Cal	58	25	8	33	569	1.68	1	
Benicia Arsenal, Cal	50	25	6	31	620	1.04		
San Francisco, Cal	22							
San Diego Barracks, Cal	30	15	1	16	533	2.87	3	
Field	4	2	3	5	1,250	.03		
Total	705	415	110	525	745	20.74	17	5
Total for the region	1,382	942	242	1,184	857	42.64	26	12

The force serving in this region during the year consisted of one entire regiment, and part of a second regiment, of infantry, four batteries of artillery, and a detachment of ordnance.

The mean strength, including officers, was 1,382 men. The total number of admissions to sick report was 1,184. Of this number 727 were treated in quarters, 453 in hospital, and 4 in the field. The number of men daily non-effective on account of sickness averaged in quarters 16 and in hospital 27; total 43. The discharges for disability numbered, from quarters, 11; from hospital, 15; total, 26; and the deaths, in quarters, 5; hospital, 7; total, 12.

The admission rate per 1,000 of mean strength was 857 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 328. The ratio of deaths per 1,000 of mean strength was 9, in the proportion of 5 in hospital and 4 in quarters; that of discharges for disability was 19, in the proportion of 11 from hospital and 8 from quarters; and that of constant non effectiveness on account of sickness was 31, in the proportion of 19 in hospital and 12 in quarters.

The average duration of each case of sickness was, for those treated in quarters, 8 days: in hospital, 21 days; in the field, 2 days; for all cases treated, 13 days: and the total loss of time on account of sickness averaged 11 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 12 days; for those who were discharged for disability it was 112 days, and for those who died, 12 days. The ratio of recoveries per 1,000 of all admissions to sick report was 943, of discharges for disability, 22, and of deaths, 10.

The admission rate per 1,000 of mean strength was higher in the northern group of posts, being 973, than in the southern group, where it was 745. The death rate also was higher in the northern group, both per 1,000 of mean strength and per 1,000 of admissions to sick report, being, respectively, 10 and 11, as against 7 and 9 in the southern group. The constant non-effective rate was 29 in the southern group and 32 in the northern.

The ratio of discharges for disability per 1,000 of mean strength was higher in the southern group, being 24 as against 13 in the northern; and the average duration of treatment prior to discharge was also longer in the southern group, being 131 as against 85 in the northern. The duration of treatment for patients who recovered averaged 13 days in the southern and 11 days in the northern group; for patients who died, 17 in the southern and 10 in the northern group.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the region and for each group therein :

Classified causes of admissions, deaths, and discharges.	Number of—			Relative position of causes of admission in—		
					Each group—	
	Admissions.	Deaths.	Discharges.	The region.	Northern.	Southern.
Injuries	242	6	2	1	1	1
Diseases of the digestive system	152	.....	1	2	3	2
Diseases of the respiratory system	111	.....	6	3	4	3
Dietic diseases	102	.....	.....	4	5	4
Malarial diseases	91	.....	.....	5	2	11
Venereal diseases	81	.....	4	6	9	5
Diarrhœal diseases	79	.....	.....	7	6	9
Diseases of the nervous system	74	.....	2	8	7	8
Diseases of the integumentary system	67	.....	.....	9	10	6
Diseases of the locomotor system	57	.....	2	10	8	10
Constitutional diseases	44	2	3	11	11	7
Diseases of the eye	22	.....	2	12	12	12
Diseases of the circulatory system	13	2	1	13	14	13
Diseases of the lymphatic system	9	.....	.....	14	17	14
Specific febrile and acute infectious diseases	7	2	.....	15	13	19
Diseases of the urinary system	6	.....	.....	16	16	15
Zoögenous diseases	6	.....	.....	17	15	17
Diseases of the reproductive system	5	.....	.....	18	18	16
Diseases of the ear	5	.....	.....	19	19	18
Septic diseases	2	.....	.....	20	20	20
Parasitic diseases	2	.....	.....	21	21	21
Diseases of the nose	1	.....	.....	22	22	.....
Developmental diseases	.....	.....	3	.....	.....	.....
Unclassified	6	.....	.....	.....	.....	.....
Total deaths	.....	12	.....	.....	.....	.....
Total discharges	.....	.....	26	.....	.....	.....
Total cases	1,184	.....	.....	.....	.....	.....

SPECIAL DISEASES.—For *pneumonia* the admission rate was 2.95 per 1,000 of mean strength in the northern group and 1.42 in the southern group; for *pulmonary phthisis* it was 1.48 in the northern and 2.84 in the southern group; for *bronchitis*, 33.97 in the northern and 22.70 in the southern group; for *catarrhs* and *common colds*, 42.84 in the northern group and 36.88 in the southern; for *articular rheumatism*, 22.16 in the northern group and 34.04 in the southern; for *muscular rheumatism*, 45.79 in the northern and 22.70 in the southern group; for *diarrhœa* (*acute and chronic*), 59.08 in the northern and 35.46 in the southern group; for *dysentery* (*acute and chronic*), 1.48 in the northern group and 1.42 in the southern; for *cholera morbus*, 17.73 in the northern and nothing in the southern group; for *paroxysmal* (*malarial*) *fevers*, 110.78 in the northern group and 22.70 in the southern; for *typhoid fever*, 2.95 in the northern and 1.42 in the southern group.

Of the class of *specific febrile and acute infectious* diseases only 7 admissions to sick report, or a rate of 5.07 per 1,000 of mean strength, were reported in the whole region during the year, and all but one (a case of *typhoid fever*) occurred in the northern group.

Typhoid fever caused 3 admissions, one occurring at each of the following posts: Fort Canby, Wash.; Vancouver Barracks, Wash.; and Presidio of San Francisco, Cal. Two of these cases proved fatal, one at Fort Canby and the other at Presidio of San Francisco.

Mumps caused 4 admissions, all at Vancouver Barracks, with no deaths.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Pacific coast during the year comprised the months of November and December in the northern group, and January, February, and March in the southern group. During this period in the northern group the number constantly non-effective on account of sicknes averaged 43 per 1,000 of mean strength, and the principal causes of non-effectiveness were, in the order of their numerical importance, injuries, venereal diseases and alcoholism, and diseases of the integumentary system. In the southern group during the period of greatest sickness the daily non-effective rate was 34 per 1,000 of mean strength, and the prevailing causes were injuries, articular rheumatism, and venereal diseases and alcoholism.

December showed a greater number of admissions to sick report than any other month of the year in the northern group, and July in the southern group, the rate per 1,000 of mean strength being 128 and 99, respectively. The number constantly non-effective on account of sickness was greatest in December in the northern group, and in January in the southern, the rate per 1,000 of mean strength being 49 and 35, respectively.

The period of *least sickness* was during the months of August, September, and October in each of the two groups, the constant non-effective rates per 1,000 of mean strength being 28 in the northern, and 26 in the southern group.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculations, it is found that, while the period of greatest sickness remains unchanged in both groups, the constant non-effective rate becomes much smaller. In the first group, excluding the cases mentioned above, the prevailing causes of sickness were diseases of the integumentary system, catarrhs and common colds, malarial fevers, and typhoid fever, and the constant non-effective rate was 25 per 1,000 of mean strength, that for the year being 20. In the second group the principal causes of disability were articular rheumatism, pulmonary phthisis, diarrhœal diseases, and malarial fevers, and the constant non-effective rate was 22 per 1,000 of mean strength, that for the year being 18.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness was during the months of August, September, and October in each group, the constant non-effective rates being 17 per 1,000 of mean strength for the northern group, and 14 for the southern.

HEALTH OF INDIVIDUAL POSTS.—In the northern group *Fort Townsend, Wash.*, furnished the highest admission rate for the year, 1,111 per 1,000 of mean strength; *Vancouver Barracks, Wash.*, the highest constant non-effective rate, 34 per 1,000; and *Fort Canby, Wash.*, the highest death rate, 14 per 1,000 of mean strength. In the southern group, *Fort Winfield Scott, Cal.*, furnished the highest admission rate, 1,372 per 1,000; *San Diego Barracks, Cal.*, the highest constant non-effective rate, 96 per 1,000; *Presidio of San Francisco, Cal.*, the highest death rate, 16 per 1,000 of mean strength.

Neither *colored troops* nor *Indian scouts* were in service in this region during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 1,382 officers and enlisted men serving in the region of the Pacific Coast, there was con-

stantly present during the year an average of 1,297 civilians. Of this number 378 were adult males, 394 adult females, and 525 children. The admissions to sick report numbered for the adult males 231, and the deaths 3; for the adult females 293, and the deaths none; for the children 362, and the deaths 1; or an aggregate of 886 admissions and 4 deaths.

The period of *greatest sickness* among civilian attaches comprised the months of January and February in the northern group of posts, and January in the southern group, the prevailing diseases being catarrh and common colds, and bronchitis in both the northern and southern groups. The *least sickness* among civilians was reported during the months of July in the northern group, and September in the southern group.

HEALTH OF THE ARMY AS A WHOLE.

The mean strength of the Army for the year, including officers and both white and colored enlisted men, was 23,572, as shown by the monthly reports of medical officers. Of this number 21,430 were white, and 2,142 were colored (of African descent). These figures represent the average number present during each day of the year, with commands from which reports were received by the Medical Department. But the mean strength of the entire Army, as shown by the returns of the Adjutant-General, was considerably greater than that given above, being 23,737 white and 2,358 colored, or a total of 26,095 men. The discrepancy between the two sets of figures is due to the fact that every officer and enlisted man of the Army is accounted for on the returns of the Adjutant-General, while the consolidated reports of the Medical Department show only the strength of the commands from which they are received, and do not include the strength of officers and enlisted men on detached service, and of those commands to which no medical officer is attached, or from which no reports are received.

All the ratios given under the heads of the different regions are based on the mean strength as shown by the medical reports, and, with the exception of the death and discharge rates, are very nearly correct, because no cases of disease or injury are reported for that portion of the Army whose mean strength is not reported also, and the number of cases thus lost probably balances the loss in strength. But in the record of deaths and discharges no such loss occurs, for all must, of course, be reported from one source or another; so that these two ratios, as stated for the several regions, are somewhat too high, because they are based upon the mean strength reported by medical officers, which, as above stated, is somewhat less than the actual strength of the respective commands. For the different regions, however, no other strength than that given in the medical reports is at hand, and consequently it has been necessary to use this strength in calculating *all* the ratios for these regions; but for the whole Army the mean strength as shown by the Adjutant-General's returns is available, and has been used in computing the rates of *death and discharge*. For all other ratios the mean strength shown by the consolidated reports of the Medical Department is used, and not that of the Adjutant-General, which would make these ratios too low, for reasons indicated above.

The Indian scouts employed as auxiliaries to the regular troops averaged for the year 310, but they have not been included in the mean strength of the Army, or in calculating any of the ratios given in this

report, for the reason that they have so little in common with the regular troops in respect of their surroundings, habits, manner of living, duration of service, etc., that no comparisons of any value can be made concerning them; and when sick they so rarely come under the observation of medical officers that the reports of commands to which they are attached furnish but little or no information relative to the amount and character of sickness among them.

In the following table the leading statistics relative to the health of the Army are briefly shown:

	White.	Colored.	Total.
Average strength as shown by returns of the Adjutant-General	*23,737	*2,358	*26,095
as shown by reports of the Medical Department	†21,430	†2,142	†23,572
All admissions to sick report during the year	26,550	3,211	29,761
treated in hospital	11,769	1,096	12,865
treated in quarters	14,143	2,083	16,226
treated in the field	638	32	670
Ratio of all admissions per 1,000 of mean strength	1,239	1,499	1,263
for previous year	1,353	1,505	1,367
for preceding decade	1,655	1,839	1,672
Admissions for disease	21,785	2,647	24,432
ratio per 1,000 of mean strength	1,017	1,236	1,036
Admissions for injuries	4,765	564	5,329
ratio per 1,000 of mean strength	222	263	226
Ratio, per 1,000 of mean strength, of cases treated in hospital	549	511	546
of cases treated in quarters	660	973	688
of cases treated in the field	30	15	29
Average number constantly non-effective during the year	836	93	929
ratio per 1,000 of mean strength	39.0	43.4	39.4
for the previous year	40.9	42.4	41.1
for the preceding decade	44.1	43.3	44.0
Number of days lost on account of sickness during the year	305,115	33,988	339,103
average for each man of the Army	14.2	15.9	14.4
for the previous year	14.9	15.4	15.0
for the preceding decade	16.1	15.8	16.1
Average number of days each case was treated	11.5	10.6	11.4
Average days treatment for patients returned to duty	10.0	8.2	9.8
discharged for disability	80.1	92.4	81.3
who died	22.7	52.9	25.0
Number of discharges for disability	592	58	650
ratio per 1,000 of mean strength	24.9	24.6	24.9
for the previous year	28.8	25.3	28.5
for the preceding decade	32.4	30.8	32.2
Number of discharges for disease	542	52	594
for injuries	50	6	56
Number of deaths from all causes	213	17	230
ratio per 1,000 of mean strength	9.0	7.2	8.8
for the previous year	7.0	5.6	6.9
for the preceding decade	11.2	13.4	11.4
Number of deaths from disease	140	10	150
from injuries	73	7	80

* Used in computing the ratios of deaths and discharges for the whole Army.
† Used in computing all ratios for the whole Army, except those of deaths and discharges.

The admission rate per 1,000 of mean strength for the Army during the year 1886 was 1,263, as against 1,367 for 1885, and 1,672 for the preceding decade.

The rate of constant non-effectiveness was also lowered this year, being 39.4, while that for the previous year was 41.1, and for the preceding decade 44, per 1,000 of mean strength. The average loss of time on account of sickness for each man in the Army was 14 days, against 15 for 1885, and 16 for the preceding decade.

The death rate was 8.8 per 1,000, being higher than that for 1885, which was 6.9, an exceptionally low figure; but it was, however, considerably lower than the rate for the previous decade, which was 11.4.

The following tables show the number and rate of occurrence of deaths for the different branches of the service, and for men of different ages and lengths of service:

Deaths occurring among officers and enlisted men in the different branches of service.

Arms of service.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.
Engineers	109	1	9.2	418	3	7.2	527	4	7.6
Ordnance	59	1	16.9	396	1	2.5	455	2	4.4
Artillery	276	5	18.1	2,572	23	8.9	2,848	28	9.8
Cavalry	423	5	11.8	7,023	60	8.5	7,446	65	8.7
Infantry	858	12	14.0	11,018	83	7.5	11,876	95	8.0
Signal Corps	17	.....	.....	485	5	10.3	502	5	10.0
General service	.....	.....	.....	149	1	6.7	149	1	6.7
Recruits at depots	.....	.....	.....	1,465	15	10.2	1,465	15	10.2
Non-commissioned staff	.....	.....	.....	427	8	18.7	427	8	18.7
General officers and commissioned staff corps	400	7	17.5	.....	.....	.....	400	7	17.5
Total for the Army	2,142	31	14.5	23,953	199	8.3	26,095	230	8.8

Deaths occurring among officers and enlisted men at the several years of service given.

Years of service.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.
Under one year	7	.....	.....	3,287	27	8.2	3,294	27	8.2
One year	22	.....	.....	2,899	17	5.9	2,921	17	5.8
Two years	30	.....	.....	3,608	26	7.2	3,638	26	7.1
Three years	24	1	41.7	2,625	17	6.5	2,649	18	6.8
Four years	51	.....	.....	2,201	14	6.4	2,252	14	6.2
Five years	62	.....	.....	993	9	9.1	1,055	9	8.5
Six years	69	.....	.....	1,081	8	7.4	1,150	8	7.0
Seven years	50	1	20.0	848	4	4.7	898	5	5.6
Eight years	70	1	14.3	560	9	16.1	630	10	15.9
Nine years	81	.....	.....	658	2	3.0	739	2	2.7
Ten years	156	2	12.8	766	11	14.4	922	13	14.1
Twelve years	184	1	5.4	1,169	12	10.3	1,353	13	9.6
Fifteen years and over	1,336	25	18.6	3,258	43	13.2	4,594	68	14.8
Total for the Army	2,142	31	14.5	23,953	199	8.3	26,095	230	8.8

Deaths occurring among officers and enlisted men serving at the ages given.

Ages in each quinquennial group.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.
Sixteen to twenty years	.....	.....	.....	198	9	45.5	198	9	45.5
Twenty-one to twenty-five years	87	.....	.....	8,187	67	8.2	8,274	67	8.1
Twenty-six to thirty years	343	2	5.8	6,824	30	4.4	7,167	32	4.5
Thirty-one to thirty-five years	301	5	16.6	3,907	28	7.2	4,208	33	7.8
Thirty-six to forty years	281	3	10.7	2,717	30	11.1	2,998	33	11.0
Forty-one to forty-five years	379	7	18.5	1,309	17	13.0	1,688	24	14.2
Forty-six to fifty years	371	8	21.6	529	9	17.0	900	17	18.9
Fifty-one to fifty-five years	200	2	10.0	194	5	25.8	394	7	17.8
Fifty-six to sixty years	110	2	18.2	60	1	16.7	170	3	17.6
Over sixty years	70	2	28.6	28	3	107.1	98	5	51.0
Total for the Army	2,142	31	14.5	23,953	199	8.3	26,095	230	8.8

The rate of discharges for disability was 24.9 per 1,000 of mean strength, against 28.5 for 1885, and 32.2 for the preceding decade.

The following tables show the number and rate of occurrence of discharges for disability for the different branches of the service, and for men of different ages and lengths of service:

Discharges occurring in the different branches of the service.

Arm of service.	Enlisted men serving in each arm.	Discharges.	Ratio per 1,000 of strength.
Engineers	418	8	19.1
Ordnance	396	3	7.6
Artillery	2,572	89	34.6
Cavalry	7,023	219	31.2
Infantry	11,018	289	26.2
Signal Corps	485	.....	.....
General service	149	1	6.7
Recruits at depots	1,465	36	24.6
Non-commissioned staff	427	5	11.7
Total for the Army	23,953	650	27.1

Discharges occurring among enlisted men at the years of service given.

Years of service.	Enlisted men serving in each group.	Discharges.	Ratio per 1,000 of strength.
Under one year	3,287	101	30.7
One year	2,899	124	42.8
Two years	3,608	107	29.7
Three years	2,625	78	29.7
Four years	2,201	43	19.5
Five years	993	19	19.1
Six years	1,081	22	20.4
Seven years	848	22	25.9
Eight years	560	12	21.4
Nine years	658	13	19.8
Ten years	766	8	10.4
Twelve years	1,169	16	13.7
Fifteen years and over	3,258	85	26.0
Total for the Army	23,953	650	27.1

Discharges occurring among enlisted men serving at the ages given.

Ages for each quinquennial group.	Enlisted men serving in each group.	Discharges.	Ratio per 1,000 of strength.
Sixteen to twenty years	198	36	181.8
Twenty-one to twenty-five years	8,187	264	32.2
Twenty-six to thirty years	6,824	162	23.7
Thirty-one to thirty-five years	3,907	72	18.4
Thirty-six to forty years	2,717	51	18.8
Forty-one to forty-five years	1,309	28	21.4
Forty-six to fifty years	529	19	35.9
Fifty-one to fifty-five years	194	14	72.2
Fifty-six to sixty years	60	3	50.0
Over sixty years	28	1	35.7
Total for the Army	23,953	650	27.1

The death rate for the whole Army, 8.8 per 1,000 of mean strength, was in the proportion of 4.7 in hospital, 3.8 in quarters, and 0.3 in the field; that of discharges for disability was 24.9, in the proportion of 17.3 from hospital, 7.3 from quarters, and 0.3 from the field; and that of constant non-effectiveness on account of sickness was 39.4, in the proportion of 25.9 in hospital, 12.7 in quarters, and 0.8 in the field.

The average duration of each case of sickness for the entire Army, counting admissions to sick report of every description, was 11 days; for cases treated in hospital it was 17 days; in quarters, 7 days; and in the field, 10 days.

Counting all admissions, the duration of treatment averaged longest (13 days) in the region of the Gulf Coast, and shortest (8 days) in the region of Eastern Timbered Plains and Hills. The region of the Appalachian Mountains gave the lowest average, 5 days; but this is based on the treatment of only 55 cases, the mean strength being but 63, and is consequently not considered in making this comparison. Of cases treated in hospital the average duration was longest (21 days) in the region of the Pacific Coast, and shortest (14 days) in the region of the Northern Lakes; in quarters, longest (8 days) in the last-mentioned region, and shortest (5 days) in the region of Eastern Timbered Plains

and Hills; in the field, longest (11 days) in the region of the Prairies, and shortest (2 days) in the region of the Pacific Coast.

The average duration of treatment for patients who recovered and returned to duty was longest (12 days) in the region of the Pacific Coast, shortest (6 days) in the region of Eastern Timbered Plains and Hills, and 10 days for the whole Army; for those who were discharged for disability, longest (112 days) in the region of the Pacific Coast, shortest (55 days) in the region of the Prairies, and 77 days for the whole Army; and for those who died, longest (66 days) in the region of Eastern Timbered Plains and Hills, shortest (8 days) in the region of the Gulf Coast, and 25 days for the whole Army.

The region of Central Timbered Plains and Hills gave the highest admission rate, 2,222; the highest constant non-effective rate 75; and the highest death rate, 11.7 per 1,000 of mean strength. The region of the Gulf Coast showed the highest rate of discharge for disability, 40.5 per 1,000 of mean strength, and the region of the Northern Lakes the highest death rate per 1,000 of cases treated, 10.8. The lowest rates of admission, constant non-effectiveness, and discharge for disability were 780, 25, and 15.9, respectively, and were all reported from the region of the Northern Lakes. The Appalachian region is credited with a non-effective rate of only 11 per 1,000, but as this is based upon a mean strength of only 63 men, it has not been considered in making this comparison. The region of Eastern Timbered Plains and Hills gave the lowest death rate per 1,000 of mean strength, 6.6, as well as the lowest death rate per 1,000 of cases treated, 4.5.

The following table shows for each of the great regions the mean strength of command, and the ratios per 1,000 of mean strength, of admissions to sick report, constant non-effectiveness, discharges, and deaths:

Regions.	Mean strength.	Ratios per 1,000 of mean strength.						
		Admissions to sick report.				Constantly non-effective.	Discharges for disability.	Deaths.
		Total.	Hospital.	Quarters.	Field.			
Atlantic Coast	2,225	1,401	671	728	2	42	25.17	10.79
Eastern Timbered Plains and Hills	916	1,462	378	1,084	.....	31	12.65	6.55
Appalachian	63	873	48	809	16	11	.....	.....
Northern Lakes	1,192	780	455	325	.....	25	15.94	8.39
Central Timbered Plains and Hills	1,114	2,222	1,042	1,180	.....	75	30.52	11.67
Gulf Coast	296	1,439	966	456	17	53	40.54	10.13
Prairies	3,858	1,256	550	695	11	38	25.40	11.15
Great Plains	6,458	1,370	588	782	.....	42	30.35	8.05
Cordilleras	6,068	1,078	439	538	101	35	26.20	9.06
Pacific Coast	1,382	857	328	526	3	31	18.81	8.68
For the Army	*23,572	1.263	546	688	29	39.41	†24.90	†8.80

* As shown by consolidated reports of Medical Department.
† Computed on a mean strength of 26,095, as shown by returns of Adjutant-General.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the whole Army and for each great region:

Classified causes of admissions, deaths, and discharges.	Number for the whole Army.			Relative position of causes of admission. Region of—									
	Admissions.	Deaths.	Discharges.	Whole Army.	Atlantic Coast.	Eastern Timbered Plains and Hills.	Appalachian.	Northern Lakes.	Central Timbered Plains and Hills.	Gulf Coast.	Prairies.	Great Plains.	Cordilleras.	Pacific Coast.
Injuries	5,329	80	55	1	1	2	5	1	3	3	1	1	1	1
Diseases of the digestive system	3,832	12	45	2	3	4	2	3	4	4	2	2	2	2
Diarrhœal diseases	3,450	8	14	3	4	5	3	4	2	7	3	4	3	7
Diseases of the respiratory system	3,365	34	67	4	2	1	1	2	6	11	4	3	4	3
Malarial diseases	2,751	8	5	5	8	3	8	9	1	1	5	5	5	5
Diseases of the nervous system	1,782	16	86	6	11	7	4	6	7	6	6	7	6	8
Diseases of the integumentary system	1,737	...	8	7	5	8	7	7	8	5	7	6	7	9
Venereal diseases	1,695	....	92	8	6	6	...	5	5	2	8	8	9	6
Diseases of the locomotor system	1,138	....	47	9	7	10	6	10	12	8	9	11	11	10
Dietic diseases	1,113	1	3	10	9	11	...	8	15	9	11	9	10	4
Constitutional diseases	1,083	12	63	11	12	9	...	11	10	10	10	10	8	11
Diseases of the eye	440	....	29	12	13	12	...	12	14	14	12	12	12	12
Zoögenous diseases	421	....	1	13	10	17	...	13	9	19	14	15	15	17
Diseases of the reproductive system	235	1	16	14	15	13	10	19	16	12	13	14	14	18
Diseases of the circulatory system	206	23	53	15	19	16	...	16	21	17	15	13	13	13
Specific febrile and acute infectious diseases	197	23	...	16	16	14	..	15	11	16	16	19	17	15
Diseases of the ear	169	..	13	17	14	19	9	18	19	13	17	16	19	19
Diseases of the lymphatic system	163	...	3	18	17	18	...	14	17	20	19	18	16	14
Diseases of the urinary system	154	7	15	19	18	15	...	17	18	15	18	17	18	16
Parasitic diseases	70	...	...	20	20	21	...	21	13	22	20	20	22	21
Septic diseases	52	1	...	21	21	20	...	20	20	18	21	21	21	20
Typho-malarial fever	40	3	....	22	...	...	...	...	22	...	...	22	20	...
Diseases of the nose	24	....	3	23	22	22	...	22	23	...	22	23	23	22
Developmental diseases	9	....	23	24	...	..	...	..	.....	21	23	24	24	...
Unclassified	306	1	9	...	...	...	...	...	...	...	...	...	...	...
Total deaths	.....	230		...	...	...	...	...	...	...	...	...	...	...
Total discharges	.....	..	650	..	..	...	...	...	...	...	...	...	...	...
Total cases	29,761	..	...	...	...	...	...	...	...	...	...	...	...	...

HEALTH OF INDIVIDUAL POSTS.

Jefferson Barracks, Mo., is the station at which the greatest amount of sickness among troops was reported during the year. With a mean strength of 513, chiefly cavalry recruits, its admission rate was 3,008, and its constantly non-effective rate 100, per 1,000 of mean strength; the former rate is a little less than two and one-half times, and the latter a little less than three times, the average corresponding rate for the whole Army. Malarial fevers, injuries, and diarrhœal diseases, in the order of their relative frequency of occurrence, are the leading causes of non-effectiveness reported at this station.

Fort Davis, Tex., with a mean strength of 221, gave the second highest rate of constant non-effectiveness, 78 per 1,000 of mean strength, the principal causes being venereal diseases, malarial fevers, and diarrhœal diseases. Fort McKinney, Wyo., gave a higher admission rate than Fort Davis, that of the former being 2,875 and that of the latter 2,276 per 1,000 of mean strength, but the rate of constant non-effectiveness at Fort McKinney was 61, or considerably less than that at Fort Davis.

Fort Robinson, Nebr., stood third in order in respect of constant impairment of force by reason of sickness, its mean strength being 194, and its non-effective rate 76 per 1,000. The leading causes of this non-effectiveness were injuries, articular rheumatism, and diseases of the eye.

Fort Davis, Tex., gave the highest admission rate for *typhoid fever*, 49.8 per 1,000 of mean strength; Fort Riley, Kans., the second, 25 1; West Point, N. Y., the third, 21.1; and Jefferson Barracks, Mo., the fourth, 15.6.

Jefferson Barracks, Mo., reported the highest admission rate for *malarial fevers*, 819 per 1,000 of mean strength: Little Rock, Ark., the second, 813; Fort Gibson, Ind. T., the third, 735; and Fort Brown, Tex., the fourth, 507.

Fort Thomas, Ariz., gave the highest rate for so-called *typho-malarial fever*, 51.7 per 1,000 of mean strength; and Fort Lewis, Colo., the second, 37 9.

Fort Davis, Tex., furnished the highest admission rate for *dysentery*, 171.9 per 1,000 of mean strength; and Fort Apache, Ariz., the second, 80.8.

Fort McKinney, Wyo., reported the highest admission rate for *rheumatism*, 475 per 1,000 of mean strength.

The highest death-rates per 1,000 of mean strength were: Headquarters Department of Texas, San Antonio, Tex., 61 (2 deaths in a mean strength of 33 men); Plattsburg Barracks, N. Y., 48; Fort Halleck, Nev., 45 (1 death in a mean strength of 22 men); Fort Mojave, Ariz., 44.

The highest rates of discharge for disability per 1,000 of mean strength were: Fort Ellis, Mont., and San Diego Barracks, Cal., each 100, and Fort Huachuca, Ariz., 89.

COMPARISON WITH FOREIGN ARMIES.

The following table shows a comparison of the more important ratios bearing upon the health of the Army of the United States with the same ratios for certain foreign armies. In compiling these statistics the latest reports received have been used, and in all cases only the strength actually present with the colors has been considered:

Army.	Mean Strength.	Ratio per 1,000 of mean strength for—							
		Admissions.			Deaths.	Discharges for disability.	Constant non-effective force.	Sick time to each soldier.	Average duration of each case of sickness.
		Hospital or infirmary.	Quarters.	Total.					
United States (1886)	23,572	546	717	1,263	8.8	24.9	39.4	14	11
United States (1876–85, yearly average)	23,805	.....	.....	1,672	11.4	32.2	44.0	16	10
Belgium (1885)	46,017	1,525	.....	1,525	5.3	10.6	30.0	11	7
Great Britain (1884)	167,686	1,092	.....	1,092	8.4	18.0	56.4	21	19
France (1878)	440,614	554	2,016	2,570	9.1	13.7	46.6	17	7
Italy (1881)	191,366	928	.....	928	10.6	19.4	35.4	13	14
Prussia and Würtemburg (1881–82)	353,192	324	807	1,131	4.6	27.0	38.8	13	11

SPECIFIC FEBRILE AND ACUTE INFECTIOUS DISEASES.

Of this class of diseases the admission rate for the Army for the year was 8.36 per 1,000 of mean strength; for 1885 it was 10.90, and for the preceding decade the annual rate averaged 18.99.

The following table shows the rate of occurrence of some of the principal diseases of this class in the Army of the United States for the year 1886, and the average annual rate for the previous decade, together with the admission rates of the same diseases in certain foreign armies, as gathered from the latest reports accessible:

Diseases.	Armies.						
	United States, 1886.	United States yearly average, 1876–'85.	Belgium, 1885.	Great Britain, 1884.	France, 1878.	Italy, 1881.	Prussia and Wurtemberg, 1881–'82.
Typhoid fever	3.95	3.88	4.54	1.07	8.58	7.43	5.53
Typhus fever	.....	.05	.....	.....	.....	.....	.....
Yellow fever	.....	.28	.....	.....	.....	.....	.....
Small-pox	.13	.25	.....	.12	.....	.....	.01
Varioloid	.08	.18	.46	.....	2.35	1.03	.03
Chicken-pox	.....	.15	.....	.....	.....	.....	.....
Measles	1.65	2.35	.50	2.08	3.91	10.82	.62
Scarlet fever	.25	.23	2.72	2.04	.21	.05	1.87
Mumps	.68	2.70	.....	.....	.....	.....	.....
Diphtheria	.13	.45	.....	.....	.....	.06	1.63
Whooping-cough	.17	.07	.....	.....	.....	.....	.....
Cerebro-spinal fever	.04	.08	.09	.01	.....	.16	.....

The admission rate for this class of diseases was highest (32.32) in the region of Central Timbered Plains and Hills; no cases were reported among troops in the Appalachian Mountain region. The total number of admissions was 197, of deaths 23, and of discharges none. The white troops gave admission and death rates of 8.12 and 0.93 respectively, per 1,000 of mean strength; the same rates for the colored troops were 10.74 and 0.42 per 1,000 of mean strength.

The following table shows the number of admissions to sick report, of deaths and of discharges, caused by each disease of this class, and the ratio of admissions for each disease per 1,000 of mean strength for the different arms of the service:

Diseases.	Number for the whole Army.			Ratio of admissions per 1,000 of mean strength for—				
	Admissions.	Deaths.	Discharges.	Infantry.	Cavalry.	Artillery.	All others.	Whole Army.
Typhoid fever	93	22	.....	3.03	6.30	3.44	2.46	3.95
Measles	39	.....	.....	.73	.29	1.53	7.70	1.65
Mumps	16	.....	.....	.55	.15	1.91	1.23	.68
Influenza	16	.....	.....	.55	1.46	.....	.....	.68
Quinsy	7	.....	.....	.09	.73	.....	.31	.30
Scarlet fever	6	1	.....	.37	.29	.....	.....	.25
Whooping-cough	4	.....	.....	.18	.15	.38	.....	.17
Diphtheria	3	.....	.....	.18	.....	.....	.31	.13
Small-pox	3	.....	.....	.....	.44	.....	.....	.13
Varioloid	2	.....	.....	.18	.....	.....	.....	.08
Cerebro-spinal fever	1	.....	.....	.09	.....	.....	.....	.04
Dengue	1	.....	.....	.09	.....	.....	.....	.04
All others of this class	6	.....	.....	.55	.....	.....	.....	.25
Total	197	23	.....	6.61	9.81	7.27	12.01	8.36

SPECIAL DISEASES.

For *pulmonary phthisis* the admission rate for the year was 3.52 per 1,000 of mean strength; it was highest (6.74) in the region of the Atlantic Coast, while for the regions of the Appalachian Mountains and of the Gulf Coast no cases were reported. The number of cases of this disease recorded during the year was 83, with 13 deaths and 57 discharges; 6 of these cases, with no deaths, and 5 discharges occurred among the colored troops. For *pneumonia* the admission rate for the whole Army was 2.97; it was highest (7.18) in the region of Central Timbered Plains and Hills, and, as for the previous cause of admission, no cases occurred in either the region of the Appalachian Mountains or of the Gulf Coast. The total number of cases treated was 70, the deaths 16, and the discharges 5; of these, 7 cases, 2 deaths, and no discharges were furnished by colored troops. For *pleurisy* the admission rate was the same as for pneumonia, 2.97; it was highest (6.55) in the region of Eastern Timbered Plains and Hills, and, as above, the regions of the Appalachian Mountains and of the Gulf Coast furnished no cases. The admissions aggregated 70 and the deaths 2; there were no discharges. The colored troops reported 13 of the cases, no deaths, and no discharges. For *bronchitis* the rate was 45.82; it was highest (111.11) in the region of the Appalachian Mountains and lowest (20.27) in the region of the Gulf Coast. The whole number of cases reported was 1,080, of deaths 2, and of discharges 1; 120 of the cases, no deaths and no discharges, occurring among the colored troops. For *catarrhs and common colds* an admission rate of 80.90 is recorded; it was highest (171.40) in the region of Eastern Timbered Plains and Hills, and lowest (6.76) in the region of the Gulf Coast. The number of cases taken on sick report was 1,907, with no deaths or discharges; 285 of these cases were furnished by colored troops. For *acute articular rheumatism* the rate was 3.73; it was highest (4.78) in the region of the Cordilleras; no admissions were reported in the regions of Eastern Timbered Plains and Hills, the Appalachian Mountains, or the Northern Lakes. The number of cases recorded during the year was 88, with 2 deaths and 2 discharges; 20 of the cases, no deaths, and 1 discharge occurred among colored troops. For *articular rheumatism, subacute and chronic*, the admission rate was 38.01; it was highest (60.04) in the region of Eastern Timbered Plains and Hills; no cases were reported from the Appalachian Mountain region. The total number of cases admitted was 896, with no deaths and 45 discharges; 206 of the cases and 8 discharges occurred among the colored troops. For *diarrhœa, acute and chronic*, a rate of 129.69 was recorded; it was highest (350.09) in the region of Central Timbered Plains and Hills, and lowest (47.03) in the region of the Pacific Coast. The number of cases taken on sick report was 3,057; the number of deaths was 2, of discharges 9; 307 of the cases, and no deaths or discharges, occurred among the colored troops. For *dysentery, acute and chronic*, the rate was 10.18; it was highest (15.66) in the region of the Cordilleras; in the region of Eastern Timbered Plains and Hills, and of the Appalachian Mountains no cases were reported during the year. The total number of cases admitted was 240; the deaths were 6, and the discharges 5; the number of cases reported among colored troops was 28; of deaths and discharges, none. For *paroxysmal (malarial) fevers* the admission rate was 116.71; it was highest (512.57) in the region of Central Timbered Plains and Hills, and lowest (27.68) in the region of the Northern Lakes. The whole number of cases aggregated 2,751, the deaths 8, and the discharges 5; among the colored

troops 245 cases were reported, with neither deaths nor discharges. For *typho-malarial fever* (*so called*) the rate was 1.70; it was highest (4.78) in the region of the Cordilleras; the only regions other than this reporting cases with this diagnosis were the Great Plains and Central Timbered Plains and Hills. The total number of cases admitted was 40, the deaths 3, and the discharges none; no cases were reported among the colored troops. For *typhoid fever* an admission rate of 3.95 for the whole Army was reported; it was highest (8.73) in the region of Eastern Timbered Plains and Hills; no cases were reported in the region of the Appalachian Mountains or of the Gulf Coast. The cases aggregated 93 and the deaths 22; no discharges were reported; 2 of these cases, and 1 death, occurred among the colored troops.

VENEREAL DISEASES.

The admissions to sick report recorded under this head during the year numbered 1,695, the discharges 92, the deaths none, and the total number of days lost 41,576; the admission rate was 72, and the constant non-effective rate 4.83, per 1,000 of mean strength; 5.7 per cent. of all the admissions to sick report during the year, and 12 per cent. of all the time lost through sickness, were due to these causes.

The posts showing the highest admission rates for this class of diseases were Fort Brown, Tex., Columbus Barracks, Ohio, and Fort Mojave, Ariz., their respective rates being 392, 361, and 244 per 1,000 of mean strength, the lowest of which is more than three times the average for the whole Army.

ALCOHOLISM AND ITS EFFECTS.

Under this head have been grouped all cases taken upon sick report, in which the disability, whether slight or severe, acute or chronic, was directly due to the ingestion of alcohol in some form. The figures given do not by any means represent the total impairment of force attributable to this cause, but only that portion of it connected with pathological conditions of sufficient importance to require the attention of medical officers, and to necessitate their excusing men from some part of their military duty.

The admissions to sick report charged to alcoholism and its effects numbered 1,110, the discharges 2, and the deaths 1; the admission rate was 47, and the constant non-effective rate .52 per 1,000 of mean strength; 3.7 per cent. of all the admissions to sick report during the year, and 1.3 per cent. of all the time lost through sickness, were due to these causes.

The posts showing the highest admission rates for this class of cases were Fort Sidney, Nebr., Fort Missoula, Mont., and Fort Marcy, N. Mex., their respective rates being 232, 213, and 177 per 1,000 of mean strength, the lowest of which is more than three times the average for the whole Army.

Venereal diseases and alcoholism combined stood fifth in order of relative frequency of occurrence among all the causes of admission to sick report during the year; the total loss to the Government in time was 46,028 days; 9.4 per cent. of all the admissions to sick report, and 13.6 per cent. of all the time lost through sickness, were due to these diseases.

The following table shows the number of admissions for venereal diseases, alcoholism, and for the two combined, the ratio of admissions per

1,000 of mean strength and the average number of days of treatment in each case for the whole Army and for the white and colored troops separately:

For the whole Army.	Syphilis.	Chancroid.	Gonorrhœa.	Other venereal diseases.	Total.	Alcoholism.	Grand total.
Total number of admissions	527	150	784	234	1,695	1,110	2,805
White	467	132	724	221	1,544	1,100	2,644
Colored	60	18	60	13	151	10	161
Ratio of admissions per 1,000 of mean strength	23	6	33	10	72	47	119
White	22	6	34	10	72	51	123
Colored	28	8	28	6	70	5	75
Average number of days' treatment in each case	30	25	21	25	25	4	16
White	31	24	21	25	25	4	16
Colored	25	26	17	23	22	12	21

INJURIES.

Out of a total of 29,761 admissions to sick report for all causes during the year, 5,329, or 17.9 per cent., of these admissions were charged to injuries of various kinds. The deaths numbered 80 and the discharges 56, or 34.8 and 8.6 per cent., respectively, of all deaths and discharges. The ratio of admissions per 1,000 of mean strength was 226, of constant non effectiveness 8.1, of discharges 2.1, and of deaths 3.1. The average duration of treatment was 13 days for each case.

Shot wounds.—The admissions to sick report during the year for injuries of this character numbered 110, with 10 deaths and 21 discharges. In addition there were 18 cases in which death occurred instantaneously, or soon after the receipt of the injury, so that they were not taken upon sick report as cases treated. The whole number of casualties of this class, therefore, was 128, of which 6, with 3 deaths, occurred in action (with hostile Indians); 6, with 1 death, were caused by the premature explosion of cannon or large shells; 11, with no deaths, by accidents connected with the reloading of cartridges; 14, with no deaths, by accidents at target practice; 16, with 2 deaths, by accidents while hunting; 33, with 1 death, by other accidents; 26, with 10 deaths, were caused by personal encounters; in 13 cases, with 11 deaths, the wounds were self-inflicted with suicidal intent; and in 3 cases, with no deaths, they were self-inflicted by malingerers.

SURGICAL OPERATIONS.

There were 152 surgical operations reported by medical officers during the year; 68 of these were necessitated by injuries, and 84 by various surgical diseases. Antiseptics were used in 71 cases after operations, 21 of which were for shot wounds, and in the treatment of 16 cases of shot wound not operated upon.

The following table shows the number, character, and results of the principal surgical operations performed during the year:

Nature of operation.	Disease or injury.	Recovered.	Died.	Total.	Remarks.
Removal of tumors				**21**	
Sebaceous cysts		7		7	Scalp, 1; face, 5; neck, 1.
Fibroma		1		1	Hand.
Lipoma		6		6	Scalp, 1; cheek, 1; side, 1; back, 3.
Adenoid		1		1	Neck.
Papilloma		2		2	Face, 1; genitals, 1.
Epithelioma		1		1	Face.
Unclassified		3		3	Face, 2; neck, 1.
Removal of foreign bodies				**9**	
Bullet and shot	Shot wounds	9		9	Flesh wounds, 7; fractures, 2.
Opening of abscesses				**3**	
Perityphlitic	Perityphlitis	1	1	2	Incision and drainage.
Lumbar	Caries		1	1	Incision.
Operations on nerves				**1**	
Stretching of nerves	Neuralgia	1		1	Stumps of amputated fingers.
Operations on the eye				**2**	
Iridectomy	Laceration	1		1	Lodgment of missile.
Excision of the eyeball	do	1		1	
Operations on the mouth				**5**	
Removal of tonsils	Tonsillitis	2		2	
Amputation of uvula	Elongated, 2; œdema, 1	3		3	
Operations on arteries				**1**	
Ligation	Incised wound	1		1	Ulnar; silk ligature.
Operations on veins				**2**	
For varicocele	Varicocele	2		2	
Operations on respiratory organs.				**2**	
Paracentesis of pleura	Pleurisy	2		2	Aspiration.
Operations on digestive organs.				**17**	
For fistula in ano		5		5	Incision.
For anal fissure		1		1	Dilation and incision.
For hæmorrhoids		8		8	Ligation, 2; excision, 6.
Laparotomy	Intestinal obstruction		1	1	Death on third day.
Paracentesis	Ascites	1	1	2	Not terminated, 1.
Operations on urinary organs.				**8**	
Tapping of bladder	Laceration by kick		1	1	Aspiration.
For stricture of urethra	Traumatic, 1; gonorrheal, 6.	7		7	Internal urethrotomy.
Operations on generative organs.				**14**	
For phimosis		11		11	Slitting, 2; circumcision, 9.
For hydrocele		3		3	Tapping.
Operations on bones				**8**	
Removal of portions of	Necrosis, 5; shot fracture, 1.	6		6	Maxilla, 1; clavicle, 1; radius, 1; cranium, 1; tibia, 2.
For ununited fractures	Compound fractures	2		2	Wiring, 1; splint, 1.
Operations on joints				**6**	
Reduction of dislocations		5		5	Shoulder, 2; elbow, 3.
Incisions	Abscess	1		1	Elbow joint.
Operations on muscles				**1**	
Myotomy	Anchylosis	1		1	Elbow.
Operations on limbs				**45**	
Amputation for injury				42	
Arm	Shot wound, 1; compound fracture, 1.	2		2	Primary, 1; intermediate, 1.
Forearm	Shot wound, 2; compound fracture, 1.	3		3	Primary, 3.
Finger	Shot wound, 12; injury, 12; frost-bite, 4.	28		28	Primary, 14; intermediate, 4; secondary, 10.
Thigh	Shot wound, 2; compound fracture, 1.	3		3	Primary, 1; intermediate, 1; secondary, 1.
Leg	Shot wound, 1; compound fracture, 1.	2		2	Primary, 1; intermediate, 1.
Foot	Frost-bite	1		2	Intermediate; double amputation.
Toe	Shot wound, 1; compound fracture, 1.	2		2	Primary.
Amputation for disease				3	
Finger	Abscess	1		1	
Thigh	Popliteal aneurism		1	1	
Toe	Deformity	1		1	
Operations on skin, etc				**7**	
Closure of wound	Laceration	1		1	Scalp.
Ingrown toe-nail		6		6	
Aggregate		144	6	**152**	1 double amputation; 1 case not terminated.

VACCINATIONS.

The total number of primary vaccinations reported during the year was 857, of which 444 were successful. The revaccinations numbered 6,319, with 1,465 successful results.

Of the primary vaccinations 344 were done among recruits at depots, and 513 in the Army at large; 129 of the former, and 315 of the latter, were successful.

Of the revaccinations 3,611 were done at recruiting depots, and 2,708 in the Army at large; 641 of the former, and 824 of the latter, were successful.

Of the primary vaccinations 51.8 per cent. were successful, and of the revaccinations 23.2 per cent.

Bovine virus was used in 664 primary vaccinations, with 352 successful results, or a ratio of 53 per 100; and in 4,447 revaccinations, of which 1,091, or a ratio of 24.5 per 100, were successful.

Humanized virus was used in 193 primary vaccinations with 92 successful results, or a ratio of 47.7 per 100, and in 1,872 revaccinations, of which 374, or a ratio of 20 per 100, were successful.

That the Army at large is very thoroughly protected by vaccination is shown by the fact that only 3 cases of small-pox and 2 of varioloid were reported during the year, although a large portion of the force was constantly subjected to more than the ordinary risk of contagion by reason of being stationed in the vicinity of towns where the population is largely composed of Mexicans, among whom the disease is occasionally very prevalent, and rarely entirely absent.

COLORED TROOPS.

The colored troops in service during the year consisted of 2 regiments of infantry, 2 of cavalry, 4 ordnance sergeants, 3 quartermaster sergeants, and 126 unassigned recruits, making an aggregate mean strength of 2,142 men. Included in this number are only two commissioned officers, both regimental chaplains.

The following table shows the regions in which colored troops were employed, and a comparison between them and the white troops serving in the same regions, as to mean strength, and rates of admission to sick report, constant non-effectiveness, death, and discharge for disability. For reasons previously given the mean strength shown by the returns of the Adjutant General has been used in calculating the death and discharge rates for the whole Army, but not for the several regions:

	Region of—												Whole Army.	
	Atlantic Coast.		Northern Lakes.		Central Timbered Plains and Hills.		Prairies.		Great Plains.		Cordilleras.			
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Mean strength	2,194	31	989	203	1,028	86	3,593	265	5,559	899	5,410	658	21,430	2,142
Ratio per 1,000 of mean strength of—														
Admissions	1,390	2,194	825	562	2,186	2,651	1,247	1,374	1,316	1,709	1,043	1,369	1,239	1,499
Constant non-effectiveness	41	77	26	19	73	106	38	39	42	43	34	44	37	43
Deaths	10.9	.0	9.1	4.9	12.6	.0	11.4	7.5	8.1	7.8	8.9	10.6	9.6	7.2
Discharges	25.1	32.3	12.1	34.5	30.2	34.9	23.9	45.3	31.5	23.4	27.0	19.8	24.5	24.6

In the regions of the Atlantic Coast and Central Timbered Plains and Hills the mean strength of the colored troops was so small that any comparison based upon it would be of little value; in the other regions, however, the force was larger, and the ratios given are in consequence more reliable.

In the region of the Northern Lakes the rates of admission to sick report, constant non effectiveness, and deaths were decidedly in favor of the colored troops, but their rate of discharges for disability was nearly three times as large as that of the white troops. In the region of the Prairies all the rates of the colored troops were higher than those of the white, except the death rate, which was considerably lower. In the region of the Great Plains the colored troops gave lower death and discharge rates than the whites, but higher admission and non effective rates. In the region of the Cordilleras all the rates of the colored troops were higher than those of the white, except the discharge rate, which was very much lower. For the whole Army the admission and constant non-effective rates given by the colored troops were considerably higher than the same rates for the white troops, but their death rate was lower. Discharges for disability occurred in about the same proportion for both races.

The following table shows the principal causes of disability, in the rates of occurrence of which a notable disparity existed between the white and colored troops:

In favor of the white troops.			In favor of the colored troops.		
Diseases.	Admission rate per 1,000 of mean strength for—		Diseases.	Admission rate per 1,000 of mean strength for—	
	White.	Colored.		Colored.	White.
Influenza	.37	3.73	Enteric fever	.93	4.25
Measles	1.40	4.20	Malarial fever, continued	.00	2.05
Rheumatic fever	3.17	9.34	Remittent fever	11.67	19.04
Articular rheumatism (subacute and chronic)	32.20	96.17	Typho-malarial fever	.00	1.87
Epilepsy	2.38	6.07	Cholera morbus	1.40	7.00
Headache	24.03	49.49	Erysipelas	.00	2.38
Neuralgia	36.21	58.82	Venereal epididymitis and orchitis	1.87	6.49
Snow blindness	.05	2.33	Alcoholism and results	4.67	50.21
Asthma	1.68	8.87	Insanity	.47	1.49
Catarrh and colds	75.69	133.05	Gastritis	.47	2.15
Pleurisy and results	2.66	6.07	Synovitis	.93	2.15
Tonsillitis	40.04	75.16			
Colic	18.62	28.48			
Constipation	19.93	48.09			
Orchitis, non-venereal	3.17	9.34			

INDIAN SCOUTS.

The mean strength of Indians employed as scouts during the year was 310. Their admissions to sick report numbered 47, or a rate of 152 per 1,000, and their deaths 5, or a rate of 16 per 1,000.

The most frequently reported causes of admission among them were injuries, malarial fevers, and diseases of the eye. Seven were taken upon sick report for shot injuries; 3 received their wounds in action (none fatal), and 4 by various accidents.

Two Indian scouts died of consumption during the year, and 1 of heart disease; 1 was run over by a railroad train and killed, and 1 was shot

dead by another scout, whether accidentally or with homicidal intent is unknown.

CIVILIANS ATTACHED TO OR WITH THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employés of the various departments, together with their families, and, in short, all persons not included in the *personnel* of the Army, who are allowed to reside at military stations or accompany military commands. While the information concerning them, available for the purposes of this report, is of considerable value, particularly as showing, in part, the great amount of professional work which medical officers of the Army are called upon to perform in addition to their strictly military duties, it is to be regretted that many of the reports received are so defective or inaccurate as to be of little or no value, and for this reason any conclusion reached by a consolidation, either by regions or for the whole Army, of all the reports received, must be to a certain extent unreliable. This is notably the case as regards the average strength constantly present, which, large as it appears, as shown by the reports, was in reality much larger, because from several stations, at which civilians are known to be constantly present, their numbers were not reported at all, and at others there is reason to believe that the numbers reported were much smaller than they should have been. It is obvious, therefore, that any ratio based upon the mean strength as reported will be too high. Especially is this the case in respect to the death rate, for it is fair to presume that all, or nearly all, the deaths occurring would be reported, while many cases of disease and injury receiving treatment, and terminating in recovery, might not be noted; so that the error in the death rate is doubtless considerably greater than that in the admission rate. Furthermore, the amount of professional work performed by medical officers is made to appear less than it really was, not only in the reports of those stations at which no record, or an incomplete record, of civilians treated, was made, but in the consolidation for the whole Army as well. The attention of medical officers has been officially called to the necessity of making more complete and accurate reports of the amount and character of professional work performed by them among the civilian attachés of the Army, and it is hoped that in future this portion of the annual health report may be made much more valuable than it now can be.

As shown by the consolidated reports of the Medical Department, with a mean strength of 23,572 officers and enlisted men of the whole Army, there was constantly present during the year an average of 14,217 civilians, of whom 3,279 were adult males, 5,024 adult females, and 5,914 children. The admissions to sick report during the year numbered for the adult males 1,351, and the deaths 32; for the adult females 4,496, and the deaths 32; for the children 4,021, and the deaths 94, or an aggregate of 9,868 admissions and 158 deaths. The admiss on rate per 1,000 of mean strength, therefore, appears to have been 412 for adult males, 895 for adult females, and 680 for children, or 694 for all civilians; and the death rate 10 for adult males, 6 for adult females, and 16 for children, or 11 for all civilians. For reasons stated above, however, these figures are not thought to be altogether reliable.

The periods of greatest and least sickness among the civilian attachés, together with the prevailing causes of disability, have been considered under the heads of the different grand divisions. The number and causes of deaths occurring in each of the three classes of civilian attachés are shown in the following table:

Diseases.	Adult males.	Adult females.	Children.	Total.
Zymotic and miasmatic	3	8	13	24
Enthetic	.....	.....	2	2
Dietic	.....	.....	6	6
Constitutional	.....	4	8	12
Developmental	.....	.....	1	1
Nervous system	4	3	15	22
Respiratory system	8	4	11	23
Circulatory system	3	6	5	14
Digestive system	1	1	22	24
Peritoneum	1	2	1	4
Urinary system	1	.....	1	2
Integumentary system	.....	.....	1	1
Unclassified	.....	1	5	6
Total deaths from disease	21	29	91	141
injuries	11	3	3	17
Total deaths from all causes	32	32	94	158

MARRIAGES AND BIRTHS.

Upon the consolidated reports of the medical department there were noted during the year 85 marriages, of which 12 were of officers, 59 were of enlisted men, and 14 were of civilian attachés of the Army.

There were recorded also 529 births, of which 269 were males and 260 females; 118 were children of officers, 323 of enlisted men, and 88 of civilian attachés.

THE RECRUITING SERVICE.

As shown by the reports received from the various recruiting rendezvous, depots, and military stations, 14,913 applicants for enlistment were examined by medical officers during the year; of this number 1,261 were colored.

There were rejected on primary examination 7,948 applicants, of whom 635 were colored, and of those accepted and sent to depots 52 were rejected on subsequent examination; of these rejections 6 were colored.

The ratio of rejections was 53 per 100 of all examinations. For white applicants it was 54, and for colored 50, per 100.

Diseases of the locomotor, circulatory, and digestive systems caused each about 9 per cent. of all the rejections; diseases of the reproductive system, 8½ per cent.; diseases of the eye, general unfitness, and developmental defects, each about 8 per cent.; enthetic diseases, 5 per cent.; diseases of the respiratory system, 4½ per cent.; and dietic diseases, 3½ per cent.

There was also examined a number of Indians (542, with 6 rejections) for enlistment as scouts, but they are not included in this statement, or in the tabular summary of causes of rejection.

List of special medical and surgical reports received from medical officers of the Army during the year 1886.

MEDICAL REPORTS.

Name.	Rank.	Reports.
Alden, C. H	Surgeon	Acute miliary tuberculosis; autopsy.
		Health of troops at Fort Snelling, Minn., for the year 1885.
		Rupture of both membrana tympani.
		Summary of 38 cases of venereal disease; remarks on treatment.
		Atrophy of both optic nerves.
		Diabetes insipidus.
Anderson, Charles	Acting assistant surgeon.	Muscular rheumatism; tertiary syphilis.
Appel, D. M	Assistant surgeon	Pneumonia; abscess of liver; autopsy.
		Enteric fever; autopsy.
		Acute peritonitis; autopsy.
Bentley, Edwin	Surgeon	Hepatitis; autopsy.
Burton, H. G	Assistant surgeon	Constipation and chronic peritonitis; autopsy.
		Acute peritonitis; autopsy.
Byrne, C. B	Assistant surgeon	Aphasia.
Carter, E. C	Assistant surgeon	Discovery of the so-called Laveran's malarial germ.
Corbusier, W. H	Assistant surgeon	Prostration from heat and thirst.
		Acute dysentery; autopsy.
		Pneumonia and suppurative hepatitis; autopsy.
		Report of vaccinations.
Cowdrey, S. G	Assistant surgeon	Report of vaccinations.
Crampton, L. W	Assistant surgeon	Report of vaccinations.
Frick, A. P	Acting assistant surgeon.	Scarlatina.
		Prevalence of malarial diseases among troops recently arrived from Wyoming Territory.
Gibson, J. R	Surgeon	Typhoid fever.
		Typhoid fever.
Gorgas, W. C	Assistant surgeon	Typhoid fever; autopsy.
Harvey, P. F	Assistant surgeon	Typhoid fever (thermograph).
		Typhoid fever (thermograph).
Horton, S. M	Surgeon	Acute dysentery.
		Cerebral meningitis left side; autopsy.
Kilbourne, H. S	Assistant surgeon	Rheumatism; pleuro-pneumonia.
Kneedler, W. L	Assistant surgeon	Diphtheria.
Koerper, E. A	Surgeon	Report of vaccinations.
McClellan, Ely	Surgeon	Sporadic diphtheria; scarlet fever.
		Continued malarial fever.
		Typhoid fever.
McElderry, Henry	Surgeon	Typhoid fever (thermograph).
		Simple continued fever.
Mearns, E. A	Assistant surgeon	Diphtheria; erysipelas.
Middleton, J. V. D	Surgeon	Pleuro-pneumonia; autopsy.
		Acute congestion of liver, heart-clot; autopsy.
		Diabetes, mellitus.
Page, Charles	Surgeon	Paralysis of pneumogastric nerve.
Patzki, J. H	Assistant surgeon	Gall-stone colic.
Price, C. E	Assistant surgeon	Abscess of brain; autopsy.
Robinson, S. Q	Assistant surgeon	Poisoning by nutmegs.
		Poisoning by "*white camas.*"
Sewall, C. A	Acting assistant surgeon.	Diphtheria.
		Diphtheria.
Shannon, W. C	Assistant surgeon	Epileptiform convulsions.
		Incipient general paralysis of the insane.
Steinmetz, W. R	Assistant surgeon	Report on late journey to Europe.
Strong, Norton	Assistant surgeon	Pneumonia, left lung.
Summers, jr., J. E	Acting assistant surgeon.	Poisoning by morphine, suicide.
Taylor A. W	Assistant surgeon	Incipient phthisis.
Tilton, H. R	Surgeon	Chronic meningitis of the lumbar cord, of rheumatic origin.
		Typhoid fever (thermographs).
Waters, W. E	Surgeon	Anasarca; correct diagnosis obscure.
Wolverton, W. D	Surgeon	Poisoning by hydrochlorate of morphia.
Wood, M. W	Assistant surgeon	Acute lobar pneumonia; autopsy.
Woodhull, A. A	Surgeon	Malignant disease of stomach and adjacent parts.
Worthington, J. C	Assistant surgeon	Erysipelas.
Wright, J. P	Surgeon	Continued fever (thermograph).

LIST OF SPECIAL MEDICAL AND SURGICAL REPORTS, ETC.—Continued.

SURGICAL REPORTS.

Name.	Rank.	Reports.
Alden, C. H	Surgeon	Five cases of gunshot wounds treated antiseptically.
Burton, H. G	Assistant surgeon	Perityphlitic abscess, operation for.
		Lacerated wound of fingers, amputation.
		Fracture of femur; concussion of brain; autopsy.
		Fracture of skull; concussion of brain; autopsy.
		Fracture of skull, laceration of brain; autopsy.
Bartholf, J. H	Surgeon	Gunshot fracture, knee joint, right leg.
Carter, E. C	Assistant surgeon	Amputation of finger; anaesthesia by cocaine.
Cleary, P. J. A	Surgeon	Gunshot wound, perforating chest; autopsy.
Comfort, A. I	Acting assistant surgeon.	Gunshot fracture of cranium; suicide.
Cowdrey, S. G	Assistant surgeon	Gunshot wound, perforating chest.
		Gunshot wound, perforating left foot and ankle.
		Stab wound, left chest, penetrating lung.
		Cerebral meningitis; injury to brain; death.
Frick, A. P	Acting assistant surgeon.	Gunshot wound of liver.
Gardner, W. H	Surgeon	Gunshot wound, penetrating abdomen; autopsy.
Gibson, R. J	Assistant surgeon	Gunshot wound, right forearm; reamputation of arm.
Gorgas, W. C	Assistant surgeon	Death from freezing.
Kean, J. R	Assistant surgeon	Dissecting aneurism of popliteal artery.
		Amputation of thigh; autopsy.
Kober, G. M	Acting assistant surgeon.	Gunshot wound of larynx.
La Garde, L. A	Assistant surgeon	Foreign body in brain.
Lauderdale, J. V	Assistant surgeon	Hemorrhage of bowels from swallowing fragments of clinical thermometer; autopsy.
McClellan, Ely	Surgeon	Gunshot wound, left gluteal region.
		Gunshot wound of chest.
		Gunshot fracture of cranium; autopsy.
		Penetrating incised wound of chest, involving lung; autopsy.
		Suffocation; autopsy.
		Concussion of brain; autopsy.
		Compound comminuted fracture of humerus; amputation of arm.
		Death from drowning.
Meacham, F	Surgeon	Death from crushing; autopsy.
Middleton, J. V. D	Surgeon	Rupture of lung; autopsy.
Newton, R. C	Assistant surgeon	Simple comminuted fracture, tibia and fibula.
Owen, jr., W. O	Assistant surgeon	Gunshot wound, left leg and palm left hand.
Patzki, J. H	Assistant surgeon	Sprain, right knee.
Powell, J. L	Assistant surgeon	Operation for the removal of necrosed bone.
Raymond, H. I	Assistant surgeon	Gunshot fracture of radius; primary antiseptic occlusion.
Reed, Walter	Assistant surgeon	Gunshot fracture of femur, amputation of thigh.
Sewall, C. A	Acting assistant surgeon.	Simple fracture, left clavicle.
Strong, Norton	Assistant surgeon	Abscess right side, probable perforation of vermiform appendix; extraction of small piece of graphite from tumor.
Taylor, A. W	Assistant surgeon	Gunshot wound, right hand.
Waters, W. E	Surgeon	Concussion of spinal cord from a fall.
Wood, M. W	Assistant surgeon	Traumatic rupture of bladder.
Woodhull, A. A	Surgeon	Result of gunshot wound received in 1864.

HYGIENE OF THE ARMY.

By direction of the Secretary of War, on July 15, 1885, paragraph 2315 of the Army Regulations was amended to read as follows:

An important part of the duty of a medical officer of the Army is the supervision, under the direction of his immediate commander, of the hygiene of the post or command to which he is attached, and the recommendation of such measures as he may deem necessary to prevent or diminish disease among the troops. For this purpose he shall at least once a month examine and note in the medical history of the post the sanitary condition of the quarters, including all buildings belonging to the post, the character and cooking of the rations, the amount and quality of the water-supply, the drainage, and the clothing and the habits of the men, and make a report thereon in writing to the commanding officer, with such recommendations as he may deem proper. If the recommendations be approved and carried out, the medical officer shall note the fact in the medical history of the post. If the action recommended be deemed impracticable or undesirable, the commanding officer shall indorse his objections on the report and forward it to the department commander. A copy of such indorsement shall be furnished to the medical officer, who shall record it in the medical history of the post. A copy of each report, and of the action of the commanding officer thereon, will be forwarded as soon as practicable, through the usual military channels, to the Surgeon-General for his information.

The good effect of this regulation is clearly shown by the character of the sanitary reports received from medical officers during the year 1886. Some of these reports, it is true, are merely perfunctory and contain little or no information which is of interest or value, but the majority of them bear evidence of careful and painstaking investigation on the part of the officers making them, and a full appreciation of the great responsibility devolving upon them in connection with the performance of this portion of their duty.

As is to be expected, out of the large number of recommendations made on the great variety of subjects dealt with in the monthly sanitary reports, a few were clearly not practicable, and concerning a few others, differences of opinion arose between the commanding officer and the medical officer; but by far the greater portion of the sanitary measures recommended were carefully considered, practical, and capable of being easily carried into effect with the means at command, and, it is gratifying to note, the medical officers as a rule received the cordial support and co operation of their immediate commanders in their efforts to increase the health and comfort of the commands to which they were attached. That these efforts have been attended with a large measure of success is evidenced by the diminished rates of sickness and mortality in the Army for the year 1886, as compared with previous years.

Of all the unsanitary conditions reported during the year, that which appears to have been most serious, as well as most widely spread, was found to exist in connection with the privies, sinks, urinals, and other similar conveniences provided for the use of the troops. The cess-pool and privy vault, or pit, is universally condemned as being a nuisance under any circumstances, and frequently a source of the gravest danger to health, and that they should be tolerated at so many of our military stations, in spite of the well-known evils inseparably connected with their use, and in disregard of the repeated warnings and remonstrances of medical officers, is inexplicable upon any other ground than that the mere matter of convenience has been allowed to outweigh all other con-

siderations. At some of the older posts, the privies, especially those of the officers' quarters, have for years been erected over sinks dug in the earth and moved from time to time, as these pits became unpleasantly full, to other locations close by, new pits being dug and the old ones covered over with earth, until, in the language of several of the reports on this subject, the back yards have become literally "honey-combed with deposits of filth." It seems to be urgently demanded that steps should be taken not only to do away with the evils complained of, but to prevent their recurrence, by the official prohibition of the use at military stations of such methods as are known to be dangerous in the disposal of excrementitious matters and waste of various kinds, and by the adoption, instead, of such system, or systems, as will meet as nearly as possible the differing requirements of different localities, and of modern sanitary science as well.

The lack of proper bathing facilities, not only for enlisted men but for officers, is seriously felt at many posts, and is a subject which well deserves greater attention than it has heretofore received.

The clothing furnished the troops serving in the southern portions of the country, while of excellent quality, and well adapted to the requirements of the men during the winter season, is thought by many officers to be altogether too thick and heavy, and of unsuitable color, for use during the intense heat of the summer. In this connection, attention is invited to the report (p. 78) of the post surgeon at Fort Ringgold, Tex., relative to this subject, and the remarks made thereon by the commanding general and the medical director of the Department of Texas.

The following is a summary by regions of the more important comments made by medical officers during the year on the sanitary condition of barracks and quarters, and on the food, clothing, water-supply, bathing facilities, latrines, drainage, and habits of the men.

SANITARY CONDITION OF BARRACKS AND QUARTERS.

Atlantic Coast.—At Watertown Arsenal, Mass., the post surgeon reported that the married soldiers' quarters are in need of repairs; at Fort Schuyler, N. Y., that the barracks are old and in need of repairs, and that the officers' quarters, as now arranged, can not be properly heated; at Fort Hamilton, N. Y., that the casemate quarters are dark, wet and unhealthy, and should be abandoned; at Fort Wadsworth, N. Y., in July, that the squad rooms are uncomfortable at night, because it is necessary to close the windows to keep out mosquitoes; and at David's Island, N. Y., in November and December, that the barracks are overcrowded and imperfectly ventilated, and that to these causes is to be attributed the prevalence of tonsillitis and pharyngitis in the command.

Eastern Timbered Plains and Hills.—At West Point, N. Y., it is stated in most of the reports received during the year that some of the married soldiers' quarters are old, decaying, and overcrowded. At Fort McHenry, Md., repeated statements were made to the effect that the quarters both of the officers and married soldiers are old, dilapidated, badly located, and in some instances overcrowded. In reporting on the condition of five sets of officers' quarters in July, Surgeon John Brooke, the post surgeon, says:

> The buildings themselves are perfect shells, unfit for habitation in this latitude, and at least one is in a condition of extreme dilapidation. New quarters should be built on higher ground, just back of the present line, and, with a view to greater comfort, as well as for obvious sanitary reasons, they should be made to face toward the southeast, so as to receive the prevailing breeze in the summer and the sun in winter.

The Northern Lakes.—The post surgeon at Fort Mackinac, Mich., Acting Assistant Surgeon J. R. Bailey, in his report for March, says:

As a sanitary measure absolutely necessary for the health and comfort of occupants, the officers' stone quarters, erected by the English in 1780–'83, should be at once improved and changed in several respects. In their day these quarters answered the purposes for which they were designed, viz, habitation and defense against Indians and others, within a stockade inclosure. That day has passed, and this historic pile, which has withstood the storms and frosts of more than a century, though apparently as strong and as solid as ever, is but poorly adapted to its present uses.

Central Timbered Plains and Hills.—The post surgeon at Columbus Barracks, Ohio, Surgeon C. R. Greenleaf, in his report for August, calls attention to the imperfect ventilation of the main building occupied as quarters by Companies B and D, colored recruits, and the band of the general service, and says:

It is a subject to which there has been more or less attention drawn for many years, and for the settlement of which no satisfactory plan has as yet been submitted. The fact that all of the latrines and most of the urinals for the garrison are located in its cellar, and that in this building lives over one-half of the command, renders necessary the adoption of some plan for purifying its air, particularly during the winter, when the accessory ventilation by windows and doors is largely cut off, and when, as I know by personal observation, the air is very foul.

In the same communication a plan of ventilation, capable of removing all the evils alluded to, was recommended by the post surgeon and approved by the commanding officer. This plan was subsequently adopted, and, it is learned, proved satisfactory.

The post surgeon at Newport Barracks, Ky., says, in February, that the guard house is in need of repairs, and in March, that it is impossible to heat the frame quarters occupied by officers, and that they are neither healthful nor comfortable.

Prairies.—At Fort Totten, Dak., in October, the post surgeon reports that the barracks are overcrowded and badly ventilated; at Fort Sisseton, Dak., in October, that the log cabins occupied by married soldiers are unfit for habitation and should be torn down; at Fort Buford, Dak., in January, that the married soldiers' quarters should be destroyed and new ones built; at Fort Sully, in March, that the quarters occupied by married soldiers are overcrowded and unclean; at Fort Randall, Dak., that the guard house is too small and badly ventilated; at Rock Island Arsenal, Ill., that the hospital is an old frame building, worn out and dilapidated; and at Fort Riley, Kans., that the guard-house is imperfectly ventilated and often overcrowded.

Great Plains.—At Fort Stanton, N. Mex., the post surgeon, in his sanitary report for the month of January, says:

This post is unfortunate in having few desirable structures for habitations. The barracks are generally inadequate in air space, devoid of the proper conveniences, not well planned, and out of repair. * * * The quarters for officers generally answer their purpose less well than those for the enlisted men. They are so planned and arranged as to forbid comfort, privacy, and convenience. * * * I consider eight nominal sets of officers' quarters here unfit for occupancy. * * * The quarters for laundresses are unfinished, uncomfortable, and unsightly.

Under date of June 30, he writes:

The unsanitary condition of all the barracks is sufficiently, but not fully, presented by the statement that they are deficient in air space for the number of occupants belonging to them; that they have uneven walls, which collect impalpable sources of disease; that the windows and doors, being directly opposite each other, invite draughts that produce catarrhal and other more serious affections; that some of the bunks have to be placed so near doors or windows as to subject their occupants to the chilling effect of strong currents of air; that the buildings have been constructed without reference to the establishing of ventilating currents by the construction of inlets and outlets that bear the proper relation to each other; that some of the dining rooms,

if not all, are so limited in size as not to furnish seating room for the men to be fed; that proper ventilation beneath the floors has been generally neglected; that conveniences, including bathing facilities, convenient urinals properly constructed, and safe water-closets at reasonable distances, have not been supplied.

The post surgeon at Fort Ringgold, Tex., in his sanitary report for the month of October, says:

Officer's quarters: In view of the fact that the prevailing winds in this latitude are from the southeast and south, a serious error has been made in facing these double sets of quarters northeast. It is very well so far as the southeast sides are concerned, for in the south windows of these there is nearly always a refreshing breeze, but these (south) quarters serve most effectually to cut off the breeze entirely from the north ends of the same sets, there being between them, of course, a continuous partition wall. When it is remembered that the thermometer shows an average daily maximum temperature during the greater part of the summer of 103° F., or over, and that such a temperature serves to render the interior of these buildings almost furnace-like, it can well be imagined how great a deprivation it is to be cut off from the cooling night breezes—breezes which serve more than anything else to counteract the debilitating effect of the day's heat. Some plan should be adopted and carried out to remedy the evil.

Cordilleras.—At Fort Walla Walla, Wash., the post surgeon, in April, reports that the officers' quarters are old, damp, and in bad condition, and should be raised off the ground; at Boisé Barracks, Idaho, in September, that many necessary repairs await the arrival of money; at Fort Lewis, Colo., in April, that the guard-house is overcrowded, is without ventilation, and that its air is poisonous. In this report the post surgeon, Assistant Surgeon T. A. Cuningham, says:

During the month the guard-house has been crowded with prisoners. On the night of the 17th instant the post surgeon took a sample of air from the prison room, about 9.15 p. m., which showed on analysis 15½ parts per 1,000 of carbon dioxide. This large percentage was augmented by noxious animal effluvia plainly perceptive to the nostrils. The total cubic air space occupied by the guard and prisoners is but 5,805 cubic feet, and the number of men occupying this space varies from 25 to 50, which gives 116 to 232 cubic feet of breathing space per man, and that with very imperfect ventilation. On the night of my visit to the guard-house it was occupied by about 45 men, and the floor space for each was less than 15 square feet. In one of the cells in the prison room a tub was used by the prisoners, in which they passed their urine and excrement, and from which a very disagreeable odor emanated. The air space and means of ventilation are entirely insufficient for the number of men confined, and either a new guard-house should be built, or suitable arrangements made to prevent such crowding and unsanitary conditions.

In subsequent monthly reports the same unsanitary conditions were reported to exist up to the end of the fiscal year.

At Fort Thomas, Ariz., the post surgeon reports that both officers' quarters and barracks are overcrowded, and that the former are much in need of repairs.

At Fort Grant, Ariz., the post surgeon states that the barracks are poorly lighted and ventilated, and very much overcrowded.

Pacific Coast.—At Vancouver Barracks, Wash., it was reported on several occasions during the year that the dormitories of the barracks were imperfectly ventilated; and at San Diego Barracks, Cal., that the quarters occupied by married soldiers were badly in need of repairs. With these exceptions the quarters occupied by troops, both officers and enlisted men, serving in this region, were reported to be in a satisfactory condition.

FOOD.

With the few exceptions noted below, the food supplied to the troops was reported to be sufficient in quantity, of excellent quality, and usually well cooked. The opinion seems to be quite prevalent among both medical and line officers, serving at southern posts, that bacon should

be issued instead of salt pork, for the reason that in those localities the latter is hardly ever eaten by the men, and the saving can only be sold at a very low price, if at all; so that the food value to the soldier of this portion of the ration is greatly diminished. On the other hand, bacon is occasionally relished by the men even in the hottest weather, and that which is not consumed by them always finds a ready sale at a good price, thus augmenting the company or hospital fund, and allowing the purchase of fresh vegetables and other articles of diet not included in the ration; so that the soldier suffers no loss in his food supply, whatever may be the pecuniary loss to the Government through the greater shrinkage in weight, and liability to spoil, of bacon over pork.

Atlantic Coast.—The post surgeon at David's Island, Surgeon A. A. Woodhull, in his report for February, says:

> Although the ultimate authority has declined to authorize an increased bread ration at this depot, and while I very particularly wish to refrain from unmilitary importunity, I feel it is proper to say that these, in common with all other recruits, do not find the allowance of 6 ounces of bread at a meal sufficient. I commend the suggestion, lately made to me by an experienced company commander here, that for the first month at depot men in their first enlistment should be allowed a ration and a half of bread per day.

At Fort Monroe, Va., the suggestion was made in the July sanitary report that the diet of the men could with benefit be varied by the addition of fish, which can be readily caught in great abundance on the sea front of the reservation.

Central Timbered Plains and Hills.—At Columbus Barracks, Ohio, in May, it was reported that the coffee issued to the men was insufficient in quantity; at Jefferson Barracks, Mo., in October, that the issue of fresh pork should be suspended until winter; and at Mount Vernon Barracks, Ala., that frequent complaints had been made of the fresh beef, which was of wretched quality.

Gulf Coast.—The post surgeon at Fort Brown, Tex., on several occasions during the year, expressed the opinion that bacon should be issued instead of pickled pork, and that potatoes should be made a part of the ration.

Prairies.—The fresh beef furnished at a few posts was poor and tough, and some complaints were made of the issue of salt pork, bacon being preferred instead.

Great Plains.—Some complaints were made of the insufficiency of fresh vegetables, but at most of the posts in this region gardens were cultivated by the troops and yielded an abundance of vegetables. The fresh beef was quite generally reported to be of poor quality during the winter and spring months. Complaints were also made of the issue of salt pork, all officers who mentioned the matter recommending the issue of bacon instead.

Cordilleras.—At some of the posts the beef was stated to be lean and tough, and in the southern group numerous complaints were made of the inferior quality of the bread made of Arizona flour, but, with these exceptions, nothing concerning the food supply seems to have been brought to the attention of the medical officers serving in this region which called for unfavorable comment in their sanitary reports.

CLOTHING.

Atlantic Coast.—In the sanitary report of David's Island, N. Y., for April, it is noted that the post shoes are of inferior material, breaking and wearing out with moderate use. At St. Francis Barracks, Fla., the post surgeon states that the clothing is too heavy for warm weather.

Eastern Timbered Plains and Hills.—The post surgeon of the United States Military Academy, Surgeon A. K. Smith, reported, in August, that the faulty shape and fit of the cadet shoe was responsible for the remarkably large number of cases of blistered heels and toes which came under his observation among the cadets. Upon this report the Superintendent of the Academy, General Merritt, took the following action, which, it is presumed, was productive of good results, as no further complaint was made:

Respectfully referred to the quartermaster and commissary of cadets. The within views of the post surgeon are concurred in. It is directed that the cadet shoemaker be required to make the shoe of the cadet longer and broader. This increase can not be prescribed in parts of an inch, but the experience of the shoemaker should guide him in making the required change in each case. It is desired to call attention to the fact that a like report to the within was made by the post surgeon (Dr. C. T. Alexander) in September, 1882, and again in July, 1883. It is not discovered that any change for the better has resulted from these reports, and the Superintendent insists that this time the instructions foregoing be obeyed, even if it is necessary to replace with a new man the present shoemaker.

Prairies.—The post surgeon at Fort Pembina, Dak., in his November report, says that the underclothing furnished the men is hardly warm enough for the winter season.

Great Plains.—The post surgeon at Fort Ringgold, Tex., Assistant Surgeon W. F. Carter, in his sanitary report for the month of November, says:

I have incidentally referred to the excessively high temperatures which prevail in this locality during very nearly seven months of the year, the thermometer during the greater part of this time ranging above 100° F., and often running up to 110°, 112°, and 113° in the shade. That these high temperatures are largely instrumental in the production of the fevers which are now so common during the summer months, not only here but throughout a great part of the Southwest, I think there can be but little doubt. This opinion is shared by many, if not most, of the medical officers who have had them to deal with. If this be true, is it not certainly the part of a sound policy to so adapt the hygienic conditions of our troops to the necessities of a hot climate as best to overcome its evil effects? This brings me to the consideration of the clothing of the troops.

Personal experience and observation lead me to believe that the heavy clothing issued to troops at this post serves greatly to increase the discomfort and aggravate the depressing effects of the sun's heat. Nothing can be said against it for the late fall, winter, and early spring months. It is for this portion of the year, indeed, excellent. In quality it seems nearly all that could be desired. The point I make, and earnestly press upon the consideration of the proper authorities, is that, for that part of the year during which the thermometer ranges very generally considerably above 100° F. in the shade, some lighter and cooler dress should be authorized and provided for the troops serving upon our southern border. It is unnecessary for me here to detail the many experiments which have been made by distinguished observers to establish the suitableness of cloths of different material, textures, and colors for varying conditions of climate. Nothing can be better established than the facts demonstrated by these experiments, viz, that linen is an excellent conductor of heat, absorbs moisture rapidly, and gives it off rapidly by evaporation; that cotton cloths are not so absorbent of moisture nor so good conductors of heat as linen, but are still good; that woolen fabrics are bad conductors of heat, and, being thick and porous, they serve to retain the heat of the body. Of the colors, black, dark or deep blue, and blue are the most absorbent of heat, and white the least so. Conlier demonstrated that a (white) thin cotton tissue worn over a cloth coat is sufficient to reduce the temperature 12.6° F., *i. e.*, under exposure to the sun's rays. Why is it that the kind of clothing the very least suited to the conditions of a hot climate should be that which our troops are compelled to wear? In the North and Northwest, where the climate is characterized by extremes of cold, very liberal provisions are made for the protection of the men by the issue of fur overcoats, gloves, caps, and arctic overshoes, and these must be very expensive articles; but there the necessity for such clothing presses itself with irresistible force, and to fail to make such provisions would be to sacrifice, possibly, a good many lives.

Here the climate is characterizd by extremes of heat, and, though the effects are not so sudden nor so manifest as in the case of the opposite extreme, still they are de-

cidedly for evil; by slow degrees the system becomes enervated and falls a prey to some slow, wasting fever or other disease, for which the long-continued depression or exhaustion has prepared the way. We are decidedly apt to overlook, or fail to appreciate, the extent to which these protracted hot seasons are accountable for our large sick reports. At least it is not appreciated by those who might give some substantial relief. If it were, I am sure they would not be slower in rendering us a good service than they have been in extending the best possible protection to our brethren at the north. I speak from quite a long experience in this southern climate, and I am thoroughly satisfied that the adoption of a uniform better suited to the climate would be followed by appreciable and lasting benefits. The authorities of our sister republic, Mexico, display more good practical common sense than we in the matter of clothing for their troops, and I think in this we would do well to follow their example.

I am in favor of a white duck or linen uniform, with a light cotton or mixed (cotton and wool) underclothing. Even the white stable frock, cut blouse-like and made to fit neatly, and fastened in front with hooks and eyes or the regulation button (better a white metallic button) would do very well. The cavalrymen, almost without exception, express a preference for their stable frocks, and say they would gladly exchange their present dress for them in summer, if they could alter them to fit and be authorized to wear them. I have inspected a good many of the lockers, and in nearly every case I find that the men have, of their own means, purchased undershirts of light knit or cotton goods.

Let us have at least a cool, comfortable undress uniform of white material for garrison duty, and some light, suitable undress uniform for field duty. I think for this purpose the brown fatigue suit now issued to the men, properly cut and fitted, would do very well. The campaign felt hat now furnished, well ventilated at the sides and top, would be suitable for field service. The helmet would be the best covering for the head, I know, for this climate, if it were made after the pattern of the English (Indian) helmet, but as issued to our troops it is cut too short in front and rear. It does not protect the face or neck.

Surgeon E. P. Vollum, medical director of the department, to whom the foregoing report had been forwarded, remarks:

The subject of the clothing of troops in this semi-tropical region is a matter that evidently has not received the serious attention that its importance demands. No argument is needed to show that health requires cool, light clothing in a climate like that of the lower Rio Grande valley, which is one of the hottest regions in the world occupied by white troops.

In the early days of English occupation of India, the military commanders remained for a time stiff-necked against any departure from the home woolen uniform, which, owing to prejudice against change, was worn for some time even in southern India; but the suffering, inconvenience, and depressing effect of the heavy clothing, only suitable for the climate of England, in time caused a reform, and quite naturally the dust-colored light cloth of the natives was first put to use, but this gave way to white drill trousers and calico jackets, which are now used for fatigue purposes throughout lower India, British West Indies, West Coast of Africa, Egypt, Hong Kong, and all other points occupied by English troops in tropical and semi-tropical countries. Holland, Germany, France, and all other nations clothe their troops serving in hot countries about in the same manner as the English do in such climates.

The United States stands alone in the measure of forcing its troops to wear the same uniform during all seasons and in all latitudes; and in the twenty-four degrees embraced within the boundaries of our country there are some places as hot as any occupied by white troops anywhere in the world. In this tardiness in adapting the clothing of our troops to the climate, we stand about where the English did in the first days of their occupancy of India.

Where troops along the southern border are allowed to dress somewhat according to the suggestions of their instinct, and the necessities of the climate as found out by experience, which is sometimes done on scouting trips, they throw off their woolen uniforms, and use any light garment they can find. Officers who were on the campaign in Arizona and Sonora, that was made against Geronimo's band, informed me that the infantry marched most of the way in drawers, and undershirts, and that after the men once experienced the luxury of wearing these light garments they never put on the blue woolen trousers again till their return home.

Complaints of the oppressiveness of the heavy woolen uniform in this region in summer date back in my memory to 1853–'56, when I served in this State. At that time the unsuitableness of the uniform, which was about as heavy as it is now, was a constant topic for grumbling and discontentedness.

In 1865 reports made by Dr. Harvey E. Brown, U. S. Army, showed that during experiments with a thermometer placed in the cavity between the crown of the hat

and the head, with an average temperature in the open air of 90.2° Fahr., the temperature within the crown of the forage cap, worn in the sun, was 100.5° ; in the case of a black felt hat it was 98.3° ; in the case of an ordinary straw hat 95° ; and with the cadet helmet 92.5°. This shows the forage cap to be actually dangerous to life. Opinions of most officers at that time favored a light cork helmet, coming well down in front and behind to shade the face and neck, and covered with white or grey felt. If a vote were taken to-day the same choice would be made. At that time, regarding the blouse and trousers, every one pleaded for light, cool material ; but opinions differed as to the preference that should be given to cotton, linen, or light flannel, many inclining to the last mentioned, and the choice for color ranged between white, buff, and gray. This was before experience was had with the brown cotton clothing used for fatigue and work purposes ; these have proved to be most healthful garments, and the greatest boon ever granted the enlisted men in this climate ; the men in summer put them on as often as they can, and they would be delighted to wear them on sconting parties. Whatever of prejudice may have existed against cotton clothing in this climate, before these garments were adopted, has now passed away ; and this simply agrees with centuries of experience in China and India, which have similar climates to this, and where the hundreds of millions of population are mostly clad in cotton.

In 1885 the officers and enlisted men of all arms at the post of San Antonio were authorized by the department and post commanders to wear white trousers not only on fatigue duty, but on guard mounting and parades. The trousers were provided by a tailor of San Antonio by private contract, made of a fair quality of linen, for $1.25 per pair. Straw hats were worn during that year on all occasions except guard mounting and parade. The use of the white trousers, excepting by the band, was discontinued on account of changes of companies, the new comers not having them, and no arrangements being made to provide them.

At the present time a good many men in this department have had their stable-frocks and overalls, after they have been bleached and have ceased to shrink, altered to neat fitting and comfortable clothes that look neat and soldierly, and that can only be distinguished from linen by close examination. I recommend that this practice be allowed in orders. It would be a good step forward in the reform in dress so much needed in this climate, and it would be a convenient method of testing the desirability, usefulness, and economy of a white cotton uniform.

The problem of healthfulness of cotton for garments has already been solved by the Quartermaster's Department in allowing stable-frocks, overalls, and the canvas clothes for fatigue and working purposes. Experience has demonstrated that all these cotton articles are healthful, notwithstanding the fact that the men, while wearing them at grooming horses and hard policing, perspire more than at any other duty they perform in their woolen uniforms.

A light, cool uniform, especially for fatigue, of any fabric, cut, or color, would be hailed with delight by the troops in this department for summer wear. My preference would be for a material for coat, blouse, and trousers two-thirds cotton and one-third wool and dyed a light dust color.

The commanding general of the department, Brig. Gen. D. S. Stanley, in forwarding Assistant Surgeon Carter's report, says :

I have for many years been convinced of the necessity, for health, of a light summer uniform for troops serving in Texas, and especially in that portion of it lying on the lower Rio Grande. The necessity for a uniform of this kind exists for seven months of the year. In my opinion this uniform should be of linen. It should consist of a linen blouse of straw color and of white linen duck trousers, with a white helmet, constructed to come well over the neck and forehead, so as to protect them both. I think the summer undershirt should be of knit cotton and the summer drawers of unbleached cotton.

Cordilleras.—The clothing furnished the troops in this region was reported to be of excellent quality and well adapted to the needs of the men in both the northern and middle groups of posts, but in the southern group frequent complaints were made of its unsuitability for the intensely hot climate of that locality. The remarks previously made concerning the clothing of the troops in the southern division of the Great Plains apply with equal force here, and fully illustrate the prevailing opinion of medical officers as to the advisability of furnishing to the troops serving in these hot districts clothing better adapted to their requirements than that now in use.

WATER SUPPLY.

Atlantic Coast.—At nearly all the stations in this region the water supply was reported to be pure and abundant, and at none of them was any impairment of the health of the command attributed to this source. At David's Island, N. Y., in November, the supply was reported to be inadequate; and at Willets Point, N. Y., in February, the post surgeon stated that an additional supply of water was imperatively necessary, and recommended that it be obtained from the town of Flushing, Long Island.

Northern Lakes.—The post surgeon at Fort Brady, Mich., in his January report, says that water is obtained from holes cut through the ice; in April, that the supply is not satisfactory; and in May, that it is better than at last report, and ample for all purposes except in case of fire.

Prairies.—At Fort Sisseton, Dak., in January, the post surgeon having stated that the water supply was insufficient in quantity and of poor quality, the commanding officer forwards his report with the following indorsement:

> The post is supplied with rain water from twenty-seven cisterns; in the winter with blocks of ice by wagon, and with a water wagon when the supply from the cisterns is not sufficient. Last winter many of the cisterns froze solid, and in the balance a crust of ice formed so thick as to render them useless. There are no screens to the pipes that feed the cisterns, nor filters in the cisterns. When the cisterns were policed last spring dead vermin of various kinds were found in many of them. The first rain of the season is not fit for domestic use. The troughs and feed-pipes are rusted and have never been painted.

No improvement is noted until October, when it is stated that the supply of water is satisfactory, but that it is obtained from a lake 9 miles from the post. In December the post surgeon writes that water is obtained by melting ice.

At Fort Riley, Kans., in February, the post surgeon reports that the supply of water obtained from the Kansas river is abundant, but that its quality is bad. The prevalence of intestinal disorders at the post is attributed to the use of this water. In October it is stated that water is obtained from a well, but that its quality is doubtful and that it should be boiled and filtered before being used.

Great Plains.—At Fort Assiniboine, Mont., the post surgeon reports, in the month of January, that the water in Beaver Creek from which the supply for the post is taken is very low, and the quality deteriorated; that two cases of typhoid fever and two of diphtheria have occurred during the month, and recommends boiling all the water used for drinking. In September he states that diarrhœa and dysentery are prevalent, due to the bad quality of the water used; that Beaver creek is entirely dry, and that certain wells at the post are dangerous to health, and should be filled up. In October he says that the quality of the water is better, the supply being hauled from the creek 5 to 9 miles above the post, and that only one new case of diarrhœa has occurred during the month. In November he writes that the supply is increased in quantity, but that there is danger of its being contaminated by the herding of cattle in the vicinity of the stream.

At Fort Meade, Dak., in August, the post surgeon reports that heavy rains, following a long drought, have loaded the water with organic impurities and produced much sickness; in September, that the well is failing and the water is of very poor quality; in December, that the quantity is sufficient, but the quality poor, that to the latter fact is due

the increased prevalence of intestinal disorders at the post, and that the water supply should receive immediate attention.

At Fort McKinney, Wyo., in February the supply was reported to be ample, but the quality poor because of the presence of a large amount of organic matter.

At Fort Niobrara, Nebr., the supply was on several occasions during the year reported to be insufficient.

At Camp Supply, Ind. Ter., the post surgeon thought it too hard.

At Fort Elliott, Tex., in January and May, it is stated that the water, which is obtained from a creek, is turbid and unwholesome.

At Fort Stanton, N. Mex., the post surgeon says in his June report that the post is supplied with hard water, pumped from a well into elevated tanks and distributed through iron pipes; that the well is too shallow, and too near the bed of the Rio Bonito, which is described as a stream of variable volume, badly polluted by sewage, and very likely to contaminate the water of the well by seepage through the intervening bed of sand. To remedy the evil, he recommends that the Rio Bonito be turned into its old channel, which is at a safe distance from the well. On July 30 it is reported that up to the beginning of the rains, on the 19th of that month, the water supply had been exceedingly scanty; water in quantity sufficient to be pumped had disappeared from the well; drinking water had to be hauled a distance of 4 miles, and cholera morbus was attacking the families of enlisted men, who used impure water from a small spring at the head of an abandoned ice-pond. After the advent of the rains an abundance of muddy water was flowing through the acequias in the post. On August 30 he says: "It has been demonstrated that a surface well can not be relied on to furnish the water for a part of the year. It is certain, moreover, that water from such a well very near the bed of a filthy little stream will be subject to pollution by seepage from that stream."

At Fort Bliss, Tex., in September, the supply of water is reported to be insufficient,

At Fort Ringgold, Tex., the post surgeon reports, in September, that the water of the Rio Grande, from which stream the post supply is pumped, is, during the greater portion of the year, so muddy as to be unfit to use, for domestic purposes even, until it has been filtered or allowed to deposit its sediment by standing, and that it contains so large an amount of organic matter as to be unsafe for drinking. His report is accompanied by a plan of a very simple and ingenious condensing apparatus to be attached to the boiler of the pumping engine, and the recommendation is made that the distilled water to be thus obtained, and after being properly aerated, be used for drinking exclusively. From a subsequent report it appears that this plan was adopted, and that a fair supply of excellent drinking water was obtained by means of the improvised condenser. It was found, however, that supplying this condenser with steam direct from the boiler occasioned considerable loss of engine power, and it was therefore proposed to use, for the purpose of furnishing the distilled water required, the condenser of an ice machine, which had just been furnished the post and which utilized the exhaust steam from the pumping engine. From a later report it is gathered that this arrangement proved satisfactory.

Cordilleras.—At a few stations in the southern portion of the region the water was said to be unpalatable or turbid, and at one, Fort Grant, Ariz., it was deficient in quantity; but in none of the sanitary reports was mention made of any impairment of the health of the troops, which could be traced to the water supply as a source.

Pacific.—At Fort Gaston, Cal., in August and October, it was stated that the supply was insufficient for purposes of bathing, irrigation, and flushing of drains; at Angel Island, Cal., that it was somewhat limited in quantity during the summer, but of good quality; at Fort Winfield Scott, Cal., in April, that it was insufficient to allow the proper flushing of water-closets and drains; and at Benicia Barracks, Cal., in October, that it was barely sufficient in quantity, though of good quality.

BATHING FACILITIES.

In many, if not in most, of the older barracks and quarters the provision made for purposes of personal cleanliness of the occupants, in the way of properly constructed bath-rooms and lavatories, is notoriously inadequate and unsatisfactory, and, in the construction of some of the more modern buildings as well, this most important feature has either not been given the prominence which it deserves, or has been neglected altogether. In but very few of the sanitary reports of medical officers is the statement made that the bathing facilities are adequate and properly constructed, while in many reports, particularly those of western posts, reiterated complaints are made of deficiencies in these respects.

The following extract from the report of the post surgeon at Fort Stanton, N. Mex., for the month of November, fairly illustrates the condition of affairs which is known to exist at many other posts as well:

> The barracks are generally devoid of conveniences necessary for comfort and cleanliness. The board wash-houses provided are so cold in winter that men can not bathe in them without seriously endangering their health; the rapid evaporation in this rare atmosphere requires that great care should be exercised in exposing the moist surface of the body to currents of cold air. * * * This post is sorely in need of bathing facilities; those that are at hand are so crude as to fairly forbid their use. The proper bathing facilities have not been provided in the barracks of the men, and, with few exceptions, the officers' quarters have no bath-rooms. * * * I have in the summer time seen numbers of men making their way, after retreat, to a small hole of water, a mile or more from the post, for the purpose of taking an imperfect bath.

LATRINES.

Atlantic Coast.—The location of most of the posts in this region is such that it is a comparatively easy matter to apply a system of water carriage to the closets and other similar convenience provided for the use of the troops. This has been done to a great extent, and, in consequence, the reports of medical officers in this region contain but few allusions to the unsanitary conditions which are so frequently noted in other regions, where the filthy and dangerous privy vault, cess-pool, and sink are in common use. Of the defects reported none were of such a nature that they could not have been remedied by a little more thorough police, or by a few inexpensive changes in fixtures.

Northern Lakes.—In the sanitary report of Fort Snelling, Minn., for March, Surgeon C. H. Alden, the post surgeon, says:

> I had the honor on the 15th of December, 1884, soon after my arrival at this post, to invite attention to the highly unsatisfactory arrangement of the sinks at this post, especially in view of the possible invasion of cholera. Happily no such invasion occurred last year, but it may during the summer now approaching; and as this unsatisfactory condition still exists, I deem it my duty to again invite attention to the subject. Owing to the situation of the post on a narrow tongue of land with underlying rock, most of the sinks are placed along the edge of the bluff, very near the barracks and quarters, the fæcal deposits falling into very shallow pits just inside the edge, or down its more or less sloping face. It is impossible to cover these deposits with earth or to disinfect them properly, and in warm weather the air in the vicinity necessarily becomes very offensive. If cholera is brought to this post these deposits would

inevitably become contaminated and the disease rapidly spread. The sinks for the families in the old stone hospital building, and in the wooden officers' quarters, are over pits in the rock or dug in the sand, and are but little less dangerous than those first mentioned.

The remedy suggested in the report of December 15, 1884, above referred to, was the entire discontinuance of the sinks now in use, the removal of the deposits as far as practicable, and the introduction of the earth-closet system. It was contemplated, I understand, in connection with the introduction of water into the post, now in progress, to have sink-holes drilled down through the rock under the railroad track and into the river; these holes were to be flushed occasionally with water from the pipes and thus the deposits carried off. It appears, however, that this plan can not be carried out for want of funds. Even if carried out it would have been but a partial relief, as it applied only to two sinks for the men, and left the officers' and married soldiers' quarters with the present defective arrangements.

It is well recognized that the only safe plan of sewage disposal is to remove it promptly and completely to a safe distance from inhabited buildings. If it can not be done by the agency of water, the earth-closet plan is the best substitute, and, under the circumstances at this post, is the only practicable one. The expense to be incurred is trifling, being only for the boxes to place under the seats. Dry earth and disinfectants should be freely used, and the boxes emptied daily. It is deemed unnecessary to elaborate the plan in detail, as it is simple. Further suggestions can be made if it is to be carried out. Such earth-closets are in use, I understand, at several posts in this Department, and work well. During the past winter it has been relied upon exclusively in the hospital at this post, and proved entirely satisfactory.

In October it is stated that new sinks have been constructed for the enlisted men, but beyond this no improvement is noted during the year.

Gulf Coast.—At Jackson Barracks, La., in March, the post surgeon reports that the privies used by the men are in bad condition, owing to their faulty construction and to insufficient ventilation.

Prairies.—Many complaints were made by medical officers during the year of the unsanitary condition of sinks and other similar conveniences provided at posts in this region. The privy vault was generally condemned as being a most objectionable and dangerous nuisance. At posts where they were in use repeated and strenuous efforts were made by medical officers to secure their removal, and the substitution for them of water or earth closets, but their efforts were not, as a rule, attended with any great measure of success. The condition of affairs here alluded to is well illustrated by the following extract from a sanitary report made by Assistant Surgeon A. A. De Loffre at Fort Totten, Dak., in the month of January:

The sanitary condition of the barracks and of all the buildings at the post is good, except in the case of the officers' quarters. In the latter the bad sanitary condition is occasioned by the fact that the privy vaults are, with one or two exceptions, filled to within a few feet of the surface. I have not been able to ascertain when they were last emptied, and it is my belief that the contents have not been removed since the quarters were built. I see by the plan of the quarters that the privy vault is within a very few feet of the wall of the cistern; in fact, at one point, the wall of one touches that of the other. In some cases the water of the cistern has become so much polluted by the transudation of the contents of the privy as to render it unfit even for washing purposes. I deem it of the utmost importance that the contents of the privy vaults shall be removed as soon as possible; and as the privies are situated too near the cisterns, I would recommend the discontinuance of the vault system.

It has been proposed by the Quartermaster's Department to build other privy vaults in the yards, some distance away from the quarters, thereby doing away with the objectionable features of the present system. That plan would answer very well if it were not for the severity of this climate during the winter months; but when we consider that, during at least three months, the mercury seldom ranges above zero, and that we constantly have blizzards and drifting snow, it must be evident that the comfort of the inmates requires the closet to be as near to the quarters as possible, and that there shall be a covered way leading to it.

After thinking the matter over very carefully, it seems to me that by far the cheaper plan would be to introduce the dry-earth system at the officers' quarters, and at the hospital. In order to do that, all that would be required would be two galvanized

iron troughs for each closet, and the necessary alterations to the closets. The contents of the troughs can easily be removed once or twice a week during the summer, and perhaps less often in winter, and the troughs thoroughly cleaned. Such a system, according to my mind, would be healthful and inexpensive, as well as convenient, and I can not too strongly urge its adoption.

To this recommendation the commanding officer raised the objection that, during the intensely cold weather of winter, the contents of the boxes of the proposed earth-closets would be frozen solid, and consequently very difficult of removal, and that the task of cleaning them at any time would be a disagreeable one for the enlisted men required to perform it. To these objections Assistant Surgeon De Loffre replied:

In regard to the objections contained in the third indorsement, I would state that I have seen the system of earth-closets which I recommend in successful operation at Fort Sill, Ind. T., and at Madison Barracks, Sackett's Harbor, N. Y. The climate at the latter post is practically the same as this. Of course a certain amount of labor will be required to empty the troughs, etc., but two men with a cart can do all the work. It will be no more offensive to remove the contents of the troughs than it is to remove the slops from the kitchens, which is now being done by the troops. It seems to me that the likes or dislikes of the men in this matter should not be taken into consideration. If the troughs are made of iron, there will be no difficulty in removing the contents when frozen, for a little hot water poured into the troughs will almost immediately loosen the contents, so that they can be dumped entire, or for that matter, the troughs may be placed over a fire for a few minutes, which will have the same effect. The plan proposed by the quartermaster, of course, removes the chief objection to the present system of privy vaults. It must be remembered, however, that while it does away with one trouble, it only puts off another: for, after a time, the new vault will have to be abandoned and another one dug, which in its turn will also pass through the same process. Thus after a time, more or less remote, our back yards will have become honey-combed with pits, and the soil impregnated with sewage, thereby becoming a source of grave danger to health.

In May and October he again calls attention to the condition of these vaults, and in the latter report says that the matter has been frequently reported on, but that nothing has been done to remedy the defect.

The post surgeon at the post of San Antonio, Tex., Surgeon J. P. Wright, in his sanitary report for the month of May, says:

I would also invite attention to the importance of the use of such disinfectants, (carbolic acid, for instance) in the privy boxes, and in the refuse wagons and carts, as shall deter domestic animals from consuming the excrement removed from the privies. The usual infection of man with tapeworm is through the domestic animal, especially the dog and pig; and from this point of view it is advisable that these animals should be protected as far as possible. The hydatid tapeworm (*Tænia echinococcus*), in its adult form, exists occasionally in vast numbers in the small intestines of the dog and wolf. In its larval condition, only, this parasite infects man, producing hydatid tumors, of which there are several varieties. A hydatid tumor (of the liver, for instance) is a very grave disorder, and ordinarily is beyond medical treatment. Especial care ought, therefore, to be taken in reference to the ultimate disposition of excrement from the privy boxes, in order to prevent the propagation of the various forms of tapeworm in the intestines of domestic animals. The endemic prevalence of tæniæ in this command gives pertinence to the above suggestion.

Great Plains.—The post surgeon at Fort Assiniboine, in his sanitary report for the month of February, recommends that troughs and buckets be provided as urinals for the men; in October, that a greater quantity of dry earth be used in the sliding boxes of the earth-closets; and in December he states that, on account of the extremely cold weather, it is not practicable to use dry earth in the boxes. At Fort Maginnis, in July, it is reported that a sink is full and offensive; at Fort Custer, in December, that the officers' water closets are in bad condition; at Fort Niobrara, in May, that certain sinks are offensive and require removal; at Fort Robinson, in April and June, that privy vaults require to be disinfected with dry earth, and that garbage should not be allowed to enter cess-pools; at Fort Lyon, in February, that the

yards in rear of the officers' quarters are "honey-combed with old privy vaults," and, in November and December, that the privies are filthy and should be replaced by earth-closets; at Camp Supply, in August, that privy vaults should be filled up and their use discontinued on account of the danger of contaminating the water supply; at Fort Reno, in June, that the privies are filthy and dangerous, and that earth-closets should be substituted for them; at Fort Stanton, in June and December, that the filthy privy vaults should be replaced by the earth-closet; at Fort Hancock, in February, that the boxes of the earth-closets leak badly; and at Fort McIntosh, in March, that no liquids should be thrown into the boxes, and that dry earth should be used in them more freely.

Cordilleras.—The condition of the privies, sinks, etc., provided for the use of the troops in this region seems to have been generally most unsanitary. Where vaults and cess-pools were in use they were, as might be expected, usually reported by medical officers to be dangerous nuisances; but, as the same complaints were reported month after month, it does not appear that any material improvement was effected.

The post surgeon at Fort Douglas, Utah, in July reports a case of typhoid fever, and thinks the infection can be traced to certain old sinks in use by the men. At Fort Huachuca, Ariz., in April, it is stated that the privies in the rear of the officers' quarters are offensive and dangerous, and that their liquid contents percolate underneath the houses, the privies being on higher ground than the quarters to which they are attached. Similar reports are made in May and July. In this connection it is worthy of note that 7 cases of typhoid fever occurred at this post from July to December.

Pacific.—At Vancouver Barracks, Wash., on several occasions during the year, sinks and urinals in use by the enlisted men were reported to be filthy and malodorous. In his July report the post surgeon, Surgeon J. W. Williams, says:

> The general police of the post, as well as the special police of the barracks and barrack grounds, were properly attended to, and more than ordinary care, perhaps, paid to deodorizing and disinfecting the company sinks. Notwithstanding this care there was not a day during the month that these sinks did not emit foul odors. The reason for this was that pit sinks which present the superficial area these do (48 square feet) can not be thoroughly deodorized and disinfected with the limited means at command. Pit sinks belong properly to the field, and should have no place at a post, where they are a standing menace to the health of the troops using them so long as they remain. The chief objection to their use at posts is that, whereas sanitary science, as at present understood, insists upon the immediate or speedy removal of all excreta, pit sinks are intended to store up and retain this excreta for months at a time. A simple calculation will show the extent of the evil as it existed here in the month of July. There were ten pit sinks in use during that month, the aggregate cubic contents of which amounted to 1,200 cubic feet of excreta. The difficulties in the way of deodorizing and disinfecting such a mass of filth must be apparent.
>
> There are two approved plans for sinks which meet the modern requirement of speedy removal of excreta from the post, viz, the water-closet and the earth-closet privy. The first plan is the best, because the removal of the excreta to the sewer is immediate, and the flushing can be done without trouble or labor, and is the one I would, and do, recommend. The earth-closet privy is only effective and safe when the contents of the boxes are removed every night, which entails a large amount of daily work upon those who are specially charged with emptying and cleansing the boxes.

At Benicia Barracks, Cal., in September, Assistant Surgeon C. K. Winne, the post surgeon, says:

> The old system of latrines has been in use since the post was established, and renewed from time to time when necessary, until the ground in rear of the barracks and quarters is seamed with filled-up pits, while the soil, a retentive adobe resting upon

sandstone, retains the excreta for an indefinite time. For years after the establishment of the post no other system was practicable, but now, with the unlimited water supply available when the post is connected with the Benicia water-works, a thorough and permanent system of sewerage can be made, with water-closets for barracks and quarters.

At San Diego Barracks, Cal., on several occasions during the year, the post surgeon alludes to the dangerous condition of the privy vaults and cess-pools in use at that post, and urges that earth-closets be substituted for them.

DRAINAGE.

Atlantic Coast.—At Watertown Arsenal, Mass., the post surgeon states, in January, that the station has no sewers, and no drainage in the proper sense of the term; this condition is reported unchanged up to the end of the year. At Willets Point, N. Y., in January, the post surgeon reports that the drainage is almost entirely superficial; and in June and November that the prevalence of follicular tonsillitis in the command is to be attributed to defective drainage and sewerage. At Fort Monroe, Va., many defects in the arrangement of the drains, ventilating pipes, soil pipes, and traps of the sewerage system of that post are noted in the sanitary report for August, and the proper remedies suggested.

Prairies.—At the majority of the posts of this region the drainage was reported to be good; at a few of them, however, defects more or less serious were found to exist, due either to the unfavorable location of the post, and the absence of properly constructed artificial drains, or to carelessness and, in some cases, disobedience of orders in the disposal of slops and kitchen, bath room, and laundry waste.

Great Plains.—While at most of the military stations in this region the drainage was reported to be satisfactory, at some of them serious defects existed, due chiefly to the unfavorable location of the posts, and the absence of any suitable system of artificial drains. At many stations offensive cess-pools were in use, and complaints were frequently made of the throwing of kitchen and laundry slops upon the ground in the vicinity of the quarters both of enlisted men and officers, notwithstanding the fact, in some instances, that the practice had been prohibited by the express orders of the post commanders, and that proper receptacles had been provided for the liquid waste. At Fort Stanton, N. Mex., and Fort Hancock, Tex., the drainage was reported to be particularly bad.

Cordilleras.—At a majority of the posts of this region natural drainage is relied upon, to the exclusion of any elaborate artificial system, but the conditions of location, soil, climate, etc., appear to have been so favorable that deficiencies which, under other conditions, might affect most injuriously the health of the command, were this year scarcely felt at all, and probably played but an insignificant part in the causation of disease at the posts where they existed.

HABITS OF THE MEN.

In this connection the remarks of medical officers were as a rule confined to the simple statement that the habits of the men were "good," "very good," "excellent," etc.

The post surgeon at Fort Buford, Dak., in his April report, says: "Venereal diseases have appeared coincidently with the arrival of Indians in the vicinity of the post."

WORK OF THE RECORD AND PENSION DIVISION FOR THE FISCAL YEAR ENDING JUNE 30, 1887.

The number of official calls upon the record and pension division during the year, for information as to the cause of death in cases of deceased soldiers, and for the hospital record of invalids, was 54,340, being 988 more than the number of similar applications during the previous year. Including the 8,581 cases remaining unanswered at the end of the last fiscal year, the total number of cases to be disposed of was 62,921.

Of the new cases, 16,403 were received from the Commissioner of Pensions, 35,552 from the Adjutant-General of the Army, and 2,385 from miscellaneous sources.

Replies have been furnished to the proper authorities in 62,627 cases, of which 16,899 were furnished to the Commissioner of Pensions, 43,061 to the Adjutant-General of the Army, and 2,667 to miscellaneous applicants, leaving 294 cases to be reported on at the end of the fiscal year. In addition to the number of reports above stated as furnished to the Commissioner of Pensions, 1,632 have been prepared and furnished the same officer by the administrative and miscellaneous branch of the office; making a total of 18,531 furnished to the Pension Office (direct) during the year.

The arrearage of 8,581 cases which existed on July 1, the beginning of the fiscal year, had increased to 9,511 on December 13. As the division was working prior to this date, the bulk of the cases was delayed in the office from two and one-half to three months from the date of their receipt until they were finally disposed of. By a reorganization of the force, and the adoption of other methods of work, the causes which led to this delay were removed; to meet the greatly increased number of calls made upon the division by the Adjutant-General and the Commissioner of Pensions, the clerks were called upon to work a certain time each day beyond the regular office hours; and, on March 12, the number of cases remaining unanswered had been reduced to 353, all of which were in the hands of the clerks, and the oldest of which had been received but four days previously.

On June 30, the close of the fiscal year, but 294 cases, all of which had been received within three days, remained unanswered.

With the system now in force any call for information from the records of this office, relative to pension claims, can be answered in from one to three days.

During the year 8,470 folios of worn and dilapidated hospital registers of sick and wounded, containing 281,643 entries, were copied into new books, as also 3,141 entries from worn prescription books.

In April last the work of copying on separate printed slips the names and medical histories of the sick and wounded soldiers, contained on the hospital records, was commenced, and up to the 30th of June a total of 168,687 names and histories had been so copied. These slips are assorted and arranged in alphabetical order by regiments, so that the hospital record of a soldier who may have been treated in a number of hospitals and at different times and places, may be readily found without the laborious and, sometimes unsuccessful, search of the worn and faded original hospital records now required to be made; and they serve at the same time the double purpose of a copy and a general index.

There were received during the year from medical officers in charge of military stations and commands 2,026 consolidated monthly reports of

sick and wounded. The statistical information contained on these reports has been tabulated, and the names of the deceased and discharged soldiers entered on the alphabetical registers of the office. There were also received and filed 1,336 monthly reports of examinations of recruits, 110 special reports of interesting cases, 102 surgical reports, and 1,558 monthly sanitary reports. There were also received and filed 171 bound volumes of hospital records; 29 volumes were transmitted to the office of the Adjutant-General, and 1 to the office of the Quartermaster-General, leaving a total of 18,922 volumes on file at the end of the year.

ARMY MEDICAL MUSEUM.

Twenty-one hundred and twenty-three specimens were added to the museum during the year; an increase of 768 over the number added the preceding year. This makes the total number of specimens in the museum June 30, 26,072, classified as follows:

	Specimens.
Pathological Section:	
In museum June 30, 1886	9,583
Received during the year	255
In museum June 30, 1887	9,838
Section of Comparative Anatomy:	
In museum June 30, 1886	1,622
Received during the year	52
In museum June 30, 1887	1,674
Anatomical Section:	
In museum June 30, 1886	2,345
Received during the year	607
In museum June 30, 1887	2,952
Microscopical Section:	
In museum June 30, 1886	9,510
Received during the year	536
In museum June 30, 1887	10,046
Miscellaneous Section:	
In museum June 30, 1886	346
Received during the year	438
In museum June 30, 1887	784
Provisional Section:	
Pathological specimens in museum June 30, 1886	270
Received during the year	173
Pathological specimens in museum June 30, 1887	443
Anatomical specimens in museum June 30, 1886	273
Received during the year	62
Anatomical specimens in museum June 30, 1887	335

The more interesting specimens added to the museum collection during the year ending June 30, 1887, were a series of plaster casts and bony preparations collected by the late Prof. F. H. Hamilton, of New York; models of the heart and vessels of various fishes, mussels, etc., prepared by Auzoux, of Paris; skeletons and crania of ancient Laps and Finns; a series of corroded metal injection specimens of the vessels of the kidney, liver, and lung, and a series of old microscopes illustrating

the gradual improvement in these instruments during the last two centuries.

With the removal of the museum to the new fire-proof building will undoubtedly come large accessions of specimens contributed by physicians in all parts of the United States.

The recommendation made in the last annual report that authority be granted by Congress for the publication of an illustrated catalogue of the museum is respectfully renewed. A large part of the manuscript for such a catalogue has been prepared and it will form a work in three large volumes, which will be of great value and interest to the medical profession and will be of great benefit to the museum itself.

LIBRARY.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30, 1886.	Added during fiscal year.	Total, June 30, 1887.
Medical journals	24,116	1,261	25,377
Medical transactions	3,532	117	3,649
Bound theses	1,385	.....	1,385
Bound pamphlets	1,331	231	1,562
Other medical books	46,368	6,824	53,192
Total	76,732	8,433	85,165
Medical theses	42,212	3,067	45,279
Medical pamphlets	64,419	9,955	74,374
Total	106,631	13,022	119,653

There were presented to the library during the year 375 books and 5,683 pamphlets.

There is urgent need of a large amount of binding for the library, there being now 7,400 volumes unbound, many of which are recent works which are almost daily called for by readers, but which should not be used until they are bound. This accumulation of unbound books is due to the fact that the amount allowed for binding for this office has been insufficient for several years.

INDEX-CATALOGUE.

Volume VIII of the Index-Catalogue, including from "Legier" to "Medicine (Naval)," forming a volume of 1,078 pages, has been printed and the edition distributed to those institutions and persons who have received the previous volumes. The usefulness of this work to the medical writers and teachers, not only of the United States but of other countries, can hardly be overestimated, and it is very desirable that it should be completed as rapidly as possible. The preparation of the manuscript of Volume IX is well advanced, and the first part of it is now going to press.

THE NEW MUSEUM AND LIBRARY BUILDING.

I take great pleasure in reporting that the new building to contain the museum, library, and hospital records, for which there has been such urgent need, is now rapidly approaching completion. It is thoroughly fire-proof, and gives space for arranging the books, records, and specimens in a way which will add largely to their utility. A portion of the building has been turned over to this Department, and the most im-

portant part of the pension records and of the library have been moved to it and thus made secure from fire.

In this connection I desire to express my appreciation of the care and labor bestowed in the supervision of the construction of this building by the officers who have had charge of it, viz, Col. T. L. Casey and Col. J. M. Wilson, of the U. S. Engineer Corps. They have had many difficulties, but it is believed that the result is as satisfactory as the too-limited appropriation at their disposal for this work would permit.

HOSPITAL CORPS.

"An act to organize the Hospital Corps of the Army of the United States" having been approved by the President, a board of competent and experienced officers was detailed to carry out its purpose and prepare the necessary plans for its working details; the report of the board having been approved by the Secretary of War and promulgated in orders to the Army, the necessary transfers to the corps of enlisted men as acting hospital stewards and privates are being made as rapidly as possible.

The conditions of transfer are such that the corps will consist of a body of intelligent men, who, under instruction from the medical officers of the Army in the important duties of caring for the sick and attendance upon the wounded, will furnish an organization under the control of the Medical Department, which will enable it to meet promptly all the accidents of peace and emergencies of war.

A system of lectures upon, and practical demonstration in, first aid to the wounded has already been successfully introduced, and drills for stretcher and ambulance service will soon be perfected.

The onerous and frequently dangerous service performed by the privates of the corps entitles them, in my opinion, to an extra pay. I accordingly recommend that an allowance of 20 cents per day be added to their present pay.

PROVIDENCE HOSPITAL.

Under the provisions of the act of August 4, 1886, making appropriation of $15,000 "for the support and medical treatment of 75 transient paupers, medical and surgical patients, in the city of Washington, under a contract to be made with the Providence Hospital by the Surgeon-General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction, and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation :

Number of patients in hospital July 1, 1886	86
Number of patients admitted during the year	823
Total number of patients treated	909
Average number of patients admitted per month	68
Number remaining in hospital June 30, 1887	87
Total number of days' treatment afforded	31,706
Average number of days' treatment per patient	35
Average number of patients treated per day	87
Longest term of treatment ..... days	365
Shortest term of treatment ..... day	1
Number of patients in hospital during the whole year	24

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients shown as having remained in hospital during the whole year are paupers, incurable, without home or friends.

ARMY AND NAVY GENERAL HOSPITAL, HOT SPRINGS, ARK.

This hospital was opened for the reception of patients January 17, 1887, under charge of Maj. R. S. Vickery, surgeon, U. S. Army:

Admitted as patients from January 17 to June 30, 1887		45
Returned to sick leave	4	
Left hospital	2	
Returned to company	8	
Returned to duty—commissioned officers	2	
Returned to furlough	1	
Died	1	
	—	18
Remaining in hospital June 30, 1887		27

The total number of applications from commissioned officers and enlisted men for admission is 53, of which 5 were rejected.

The number of patients in the hospital July 1, 1887, was—

Officers of the Army	5
Officers of the Navy	1
Enlisted men of the Army	21
Total	27

Total number of beds for patients, July 1, 1887:

For officers	16
For enlisted men	64

It is believed that the benefits to the Army and Navy from the use of the waters of this justly celebrated place will be great, and liberality in the supply of funds for its maintenance and improvement is earnestly recommended.

MISCELLANEOUS.

The requirements of the Army as regards medical officers during the past year have been as follows:

Number of permanent posts	130
Number of temporary posts and sub stations	55
Total	185
Number of military expeditions in the field during the year	2

The service of but one medical officer was required with these expeditions; there were also 74 medical officers reported to this office as having been on duty with scouting parties and on other field service during the year.

The Army Medical Board convened in New York City on the 6th of April, 1885, was dissolved by order from the War Department dated April 9, 1887. The following is a recapitulation of the work performed by the Board during its session:

Assistant surgeons examined for promotion	8
Candidates for appointment in the Medical Corps invited to appear for examination	93
Candidates found qualified	16
Candidates rejected	21
Candidates who withdrew after partial examination	32
Total examined	69
Candidates who failed to appear for examination	19
Candidates who declined to appear for examination	5
Number invited but not examined	24

One medical officer was examined and found qualified by a special board convened in this city.

The names of the approved candidates have been submitted to the Secretary of War for appointment as assistant surgeons, and 12 have thus far received such appointment, leaving 4 to be appointed as vacancies may occur.

Since the date of last report, 1 surgeon with the rank of major, and 1 surgeon and 1 assistant surgeon on the retired list, have died; 1 surgeon with the rank of major has been retired, 1 assistant surgeon with the rank of captain, and 3 assistant surgeons with the rank of first lieutenant, have resigned.

Lieut. Col. John Moore, assistant medical purveyor, was appointed Surgeon-General, with the rank of brigadier-general, November 18, 1886, *vice* Murray, retired from active service; 1 surgeon with the rank of major has been promoted to assistant medical purveyor with the rank of lieutenant-colonel and 3 assistant surgeons with the rank of captain have been promoted to surgeon with the rank of major; 7 appointments in the grade of assistant surgeon have also been made.

There are no vacancies in the Medical Corps of the Army.

The medical officers who have died during the year are as follows:

Col. John F. Hammond, surgeon (retired), at Poughkeepsie, N. Y., September 29, 1886.

Maj. and Bvt. Lieut. Col. Bennett A. Clements, surgeon, at Fort Leavenworth, Kans., November 1, 1886.

Capt. Frank Reynolds, assistant surgeon (retired), at Oakland, Cal., March 4, 1887.

DISABLED MEDICAL OFFICERS.

There are 16 medical officers on sick leave of absence; of these, 7 have been found incapacitated for active service, and recommended for retirement by Army retiring boards, viz: Asst. Surg. James W. Buell, who has been on sick leave since August 23, 1877; William R. Steinmetz, who has been on sick leave since September 16, 1878; J. V. De Hanne, who has been on sick leave since June 22, 1879; Joseph Y. Porter, who was ordered to his home by Special Orders No. 136, Headquarters of the Army, A. G. O., June 15, 1885; F. W. Elbrey, who has been on sick leave since July 26, 1882; Surg. B. E. Fryer, who has been on sick leave since July 1, 1885, with the exception of five months, and William S. Tremaine, who has been on sick leave since February 10, 1885; 6 others are regarded as permanently disabled, leaving 179 medical officers for duty.

The number of medical officers permanently disabled is becoming a matter of serious embarrassment to the efficiency of this Department, and renders necessary the employment, under contract, of private physicians; an expensive and unsatisfactory procedure, to remedy which it is hoped that Congress may be induced to take action by special or general legislation.

With this view I urgently recommend that an increase of 20 assistant surgeons be authorized; which addition, it is believed, will meet the necessities of the service.

JNO. MOORE,
Surgeon General, U. S. Army.

The HONORABLE
THE SECRETARY OF WAR.

Region of the Atlantic Coast.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	7	2	.....	3.15	.90	.....
Other specific, contagious, and infectious diseases, including erysipelas	12	.....	.....	5.39	.....	.....
Malarial fevers and resulting conditions	155	1	.....	69.66	.45	.....
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera morbus	299	.....	2	134.38	.....	.90
Dysentery	13	.....	.....	5.84	.....	.....
Other miasmatic diseases	1	1	.....	.45	.45	.....
Gonorrhœa and results	111	.....	.....	49.89	.....	.....
Syphilis and results	36	.....	4	16.18	.....	1.80
Other venereal diseases	49	.....	2	22.02	.....	.90
Vaccina	149	.....	.....	66.97	.....	.....
Other enthetic diseases	3	.....	.....	1.35	.....	.....
Alcoholism	152	.....	1	68.31	.....	.45
Other dietic diseases	.....	.....	.....	.....	.....	.....
Rheumatism, including muscular	218	1	2	97.98	.45	.90
Other constitutional diseases	16	2	1	7.19	.90	.45
Developmental diseases	.....	.....	2	.....	.....	.90
Parasitic diseases	7	.....	.....	3.15	.....	.....
Headache and neuralgia	112	.....	.....	50.34	.....	.....
Other diseases of the nervous system	32	1	4	14.38	.45	1.80
Diseases of the eye	35	.....	2	15.73	.....	.90
Diseases of the ear	22	.....	1	9.89	.....	.45
Catarrhs and common colds	299	.....	.....	134.38	.....	.....
Bronchitis	68	1	.....	30.56	.45	.....
Pneumonia	11	.....	.....	4.94	.....	.....
Pulmonary phthisis	15	2	10	6.74	.90	4.49
Pleuritis	5	.....	.....	2.25	.....	.....
Other diseases of the respiratory system	16	.....	1	7.19	.....	.45
Diseases of the heart and valves	11	1	3	4.94	.45	1.35
Other diseases of the circulatory system	1	.....	.....	.45	.....	.....
Tonsillitis	86	.....	.....	38.65	.....	.....
Dyspepsia, colic, and constipation	141	.....	1	63.37	.....	.45
Other diseases of the digestive system	182	.....	7	81.80	.....	3.15
Diseases of the kidneys	5	2	2	2.25	.90	.90
Other diseases of the genito-urinary system (not venereal)	26	.....	1	11.69	.....	.45
Diseases of the locomotor system	25	.....	3	11.24	.....	1.35
Diseases of the integumentary system	228	.....	2	102.47	.....	.90
All other diseases	53	.....	2	23.82	.....	.90
Heat-stroke	2	.....	.....	.90	.....	.....
Frost-bite and general freezing	16	.....	1	7.19	.....	.45
Contusions and sprains	288	.....	.....	129.44	.....	.....
Dislocations	5	.....	.....	2.25	.....	.....
Fractures (not gunshot)	11	.....	1	4.94	.....	.45
Incised, lacerated, and punctured wounds	111	.....	.....	49.89	.....	.....
Shot wounds	5	4	1	2.25	1.80	.45
All other injuries	79	6	.....	35.51	2.70	.....
Total for disease	2,601	14	53	1,169.00	6.30	23.82
Total for injuries	517	10	3	232.00	4.49	1.35
Total for the region	3,118	24	56	1,401.00	10.79	25.17

Region of Eastern Timbered Plains and Hills.

Table showing the causes, number, and ratio per 1,000 of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	8	.....	.....	8.73	.....	.....
Other specific contagious and infectious diseases, including erysipelas	2	.....	.....	2.18	.....	.....
Malarial fevers and resulting conditions	187	.....	.....	204.15	.....	.....
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera morbus	143	.....	1	156.11	.....	1.09
Dysentery	.....	.....	.....	.....	.....	.....
Other miasmatic diseases	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	26	.....	.....	28.38	.....	.....
Syphilis and results	34	.....	5	37.12	.....	5.46
Other venereal diseases	12	.....	.....	13.10	.....	.....
Vaccina	1	.....	.....	1.09	.....	.....
Other enthetic diseases	3	.....	.....	3.28	.....	.....
Alcoholism	27	.....	.....	29.48	.....	.....
Other dietic diseases	.....	.....	.....	.....	.....	.....
Rheumatism, including muscular	93	.....	1	101.53	.....	1.09
Other constitutional diseases	1	1	.....	1.09	1.09	.....
Developmental diseases	.....	.....	1	.....	.....	1.09
Parasitic diseases	1	.....	.....	1.09	.....	.....
Headache and neuralgia	58	.....	.....	63.32	.....	.....
Other diseases of the nervous system	6	.....	3	6.55	.....	3.28
Diseases of the eye	15	.....	2	16.38	.....	2.18
Diseases of the ear	2	.....	.....	2.18	.....	.....
Catarrhs and common colds	157	.....	.....	171.40	.....	.....
Bronchitis	81	.....	.....	88.43	.....	.....
Pneumonia	2	1	.....	2.18	1.09	.....
Pulmonary phthisis	3	.....	2	3.28	.....	2.18
Pleuritis	6	.....	.....	6.55	.....	.....
Other diseases of the respiratory system	13	.....	1	14.19	.....	1.09
Diseases of the heart and valves	4	1	.....	4.37	1.09	.....
Other diseases of the circulatory system	1	.....	.....	1.09	.....	.....
Tonsillitis	30	.....	.....	32.75	.....	.....
Dyspepsia, colic, and constipation	82	.....	.....	89.52	.....	.....
Other diseases of the digestive system	46	.....	1	50.22	.....	1.09
Diseases of the kidneys	3	.....	.....	3.28	.....	.....
Other diseases of the genito-urinary system (not venereal)	17	.....	.....	18.56	.....	.....
Diseases of the locomotor system	10	.....	1	10.92	.....	1.09
Diseases of the integumentary system	63	.....	.....	68.78	.....	.....
All other diseases	9	.....	.....	9.83	.....	.....
Heat-stroke	1	.....	.....	1.09	.....	.....
Frost-bite and general freezing	3	.....	.....	3.28	.....	.....
Contusions and sprains	101	.....	.....	110.26	.....	.....
Dislocations	1	.....	.....	1.09	.....	.....
Fractures (not gunshot)	6	.....	.....	6.55	.....	.....
Incised, lacerated, and punctured wounds	29	.....	.....	31.66	.....	.....
Shot wounds	1	.....	.....	1.09	.....	.....
All other injuries	51	3	.....	55.68	3.28	.....
Total for disease	1,146	3	18	1,251.00	3.28	19.65
Total for injuries	193	3	.....	211.00	3.28	.....
Total for the region	1,339	6	18	1,462.00	6.55	19.65

Region of the Appalachian Mountains.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever						
Other specific contagious and infectious diseases, including erysipelas						
Malarial fevers and resulting conditions	2			31.75		
Typho-malarial fevers						
Diarrhœa, including cholera morbus	8			126.98		
Dysentery						
Other miasmatic diseases						
Gonorrhœa and results						
Syphilis and results						
Other venereal diseases						
Vaccina						
Other enthetic diseases						
Alcoholism						
Other dietic diseases						
Rheumatism, including muscular	6			95.24		
Other constitutional diseases						
Developmental diseases						
Parasitic diseases						
Headache and neuralgia	5			79.37		
Other diseases of the nervous system	3			47.62		
Diseases of the eye						
Diseases of the ear	1			15.87		
Catarrhs and common colds	2			31.75		
Bronchitis	7			111.11		
Pneumonia						
Pulmonary phthisis						
Pleuritis						
Other diseases of the respiratory system						
Diseases of the heart and valves						
Other diseases of the circulatory system						
Tonsillitis	1			15.87		
Dyspepsia, colic, and constipation	5			79.37		
Other diseases of the digestive system	3			47.62		
Diseases of the kidneys						
Other diseases of the genito-urinary system (not venereal)	1			15.87		
Diseases of the locomotor system						
Diseases of the integumentary system	5			79.37		
All other diseases						
Heat-stroke						
Frost-bite and general freezing						
Contusions and sprains	4			63.49		
Dislocations						
Fractures (not gunshot)						
Incised, lacerated, and punctured wounds						
Shot wounds						
All other injuries	2			31.75		
Total for disease	49			778.00		
Total for injuries	6			95.00		
Total for the region	55			873.00		

Region of the Northern Lakes.

Table showing the causes, number, and ratio per 1,000 of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	2			1.68		
Other specific, contagious, and infectious diseases, including erysipelas	9			7.55		
Malarial fevers and resulting conditions	33			27.68		
Typho-malarial fever						
Diarrhœa, including cholera morbus	84			70.47		
Dysentery	2			1.68		
Other miasmatic diseases						
Gonorrhœa and results	34		1	28.52		.84
Syphilis and results	16		2	13.42		1.68
Other venereal diseases	20			16.78		
Vaccina	9			7.55		
Other enthetic diseases	3			2.52		
Alcoholism	39			32.72		
Other dietic diseases						
Rheumatism, including muscular	46			38.59		
Other constitutional diseases	8	1		6.71	.84	
Developmental diseases			1			.84
Parasitic diseases	2			1.68		
Headache and neuralgia	46			38.59		
Other diseases of the nervous system	9	1	2	7.55	.84	1.68
Diseases of the eye	18		2	15.10		1.68
Diseases of the ear	3			2.52		
Cartarrhs and common colds	58			48.66		
Bronchitis	48			40.27		
Pneumonia	2	2		1.68	1.68	
Pulmonary phthisis	4	2	3	3.36	1.68	2.52
Pleuritis	4	1		3.36	.84	
Other diseases of the respiratory system	15			12.58		
Diseases of the heart and valves	7	1	1	5.87	.84	.84
Other diseases of the circulatory system						
Tonsillitis	43			36.07		
Dyspepsia, colic, and constipation	28			23.49		
Other diseases of the digestive system	43		3	36.07		2.52
Diseases of the kidneys	3	1	1	2.52	.84	.84
Other diseases of the genito-urinary system (not venereal)	5			4.19		
Diseases of the locomotor system	1		2	.84		1.68
Diseases of the integumentary system	55			46.14		
All other diseases	25			20.97		
Heat-stroke	2			1.68		
Frost-bite and general freezing	6			5.03		
Contusions and sprains	108			90.60		
Dislocations	1			.84		
Fractures (not gunshot)	6			5.03		
Incised, lacerated, and punctured wounds	52			43.62		
Shot wounds	3		1	2.52		.84
All other injuries	28	1		23.49	.84	
Total for disease	724	9	18	607.00	7.55	15.10
Total for injuries	206	1	1	173.00	.84	.84
Total for the region	930	10	19	780.00	8.39	15.94

Region of Central Timbered Plains and Hills.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	8	3	.....	7.18	2.69	.....
Other specific contagious and infectious diseases, including erysipelas	32	.....	.....	28.73	.....	.....
Malarial fevers and resulting conditions	571	3	1	512.57	2.69	.90
Typho-malarial fever	2	1	.....	1.80	.90	.....
Diarrhœa, including cholera-morbus	402	.....	2	360.86	.....	1.80
Dysentery	5	.....	.....	4.49	.....	.....
Other miasmatic diseases	1	.....	.....	.90	.....	.....
Gonorrhœa and results	104	.....	.....	93.36	.....	.....
Syphilis and results	51	.....	6	45.78	.....	5.39
Other venereal diseases	48	.....	1	43.09	.....	.90
Vaccina	90	.....	.....	80.79	.....	.....
Other enthetic diseases	.....	.....	.....	.....	.....	.....
Alcoholism	16	.....	.....	14.36	.....	.....
Other dietic diseases	.....	.....	.....	.....	.....	.....
Rheumatism, including muscular	59	.....	1	52.96	.....	.90
Other constitutional diseases	2	.....	.....	1.80	.....	.....
Developmental diseases	.....	.....	.....	.....	.....	.....
Parasitic diseases	21	.....	.....	18.85	.....	.....
Headache and neuralgia	126	.....	2	113.11	.....	1.80
Other diseases of the nervous system	16	.....	3	14.36	.....	2.69
Diseases of the eye	18	.....	2	16.16	.....	1.80
Diseases of the ear	11	.....	.....	9.87	.....	.....
Catarrhs and common colds	147	.....	.....	131.96	.....	.....
Bronchitis	34	.....	.....	30.52	.....	.....
Pneumonia	8	3	.....	7.18	2.69	.....
Pulmonary phthisis	4	.....	4	3.59	.....	3.59
Pleuritis	2	.....	.....	1.80	.....	.....
Other diseases of the respiratory system	2	.....	.....	1.80	.....	.....
Diseases of the heart and valves	4	.....	1	3.59	.....	.90
Other diseases of the circulatory system	.....	.....	.....	.....	.....	.....
Tonsillitis	107	.....	.....	96.05	.....	.....
Dyspepsia, colic, and constipation	88	.....	.....	78.99	.....	.....
Other diseases of the digestive system	51	.....	3	45.78	.....	2.69
Diseases of the kidneys	5	.....	2	4.49	.....	1.80
Other diseases of the genito-urinary system (not venereal)	21	.....	2	18.85	.....	1.80
Diseases of the locomotor system	8	.....	1	7.18	.....	.90
Diseases of the integumentary system	108	.....	.....	96.95	.....	.....
All other diseases	46	.....	2	41.29	.....	1.80
Heat-stroke	3	.....	.....	2.69	.....	.....
Frost-bite and general freezing	6	.....	.....	5.39	.....	.....
Contusions and sprains	159	.....	.....	142.73	.....	.....
Dislocations	1	.....	.....	.90	.....	.....
Fractures (not gunshot)	6	.....	.....	5.39	.....	.....
Incised, lacerated, and punctured wounds	38	.....	.....	34.11	.....	.....
Shot wounds	3	.....	.....	2.69	.....	.....
All other injuries	41	3	1	36.80	2.69	.90
Total for disease	2,218	10	33	1,991.00	8.98	29.62
Total for injuries	257	3	1	231.00	2.69	.90
Total for the region	2,475	13	34	2,222.00	11.67	30.52

REGION OF THE GULF COAST.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever						
Other specific contagious and infectious diseases, including erysipelas	5			16.89		
Malarial fevers and resulting conditions	90			304.05		
Typho-malarial fever						
Diarrhœa, including cholera-morbus	21			70.95		
Dysentery	1			3.38		
Other miasmatic diseases						
Gonorrhœa and results	21			70.95		
Syphilis and results	32		6	108.11		20.27
Other venereal diseases	19			64.19		
Vaccina						
Other enthetic diseases	2			6.76		
Alcoholism	17			57.43		
Other dietic diseases						
Rheumatism, including muscular	30		1	101.35		3.38
Other constitutional diseases						
Developmental diseases	1			3.38		
Parasitic diseases	1			3.38		
Headache and neuralgia	16			54.05		
Other diseases of the nervous system	8	1	1	27.03	3.38	3.38
Diseases of the eye	4			13.51		
Diseases of the ear	5		1	16.89		3.38
Catarrhs and common colds	2			6.76		
Bronchitis	6			20.27		
Pneumonia						
Pulmonary phthisis						
Pleuritis						
Other diseases of the respiratory system						
Diseases of the heart and valves	3		2	10.14		6.76
Other diseases of the circulatory system						
Tonsillitis	3			10.14		
Dyspepsia, colic, and constipation	14			47.30		
Other diseases of the digestive system	17	1		57.43	3.38	
Diseases of the kidneys						
Other diseases of the genito-urinary system (not venereal)	11			37.16		
Diseases of the locomotor system	5			16.89		
Diseases of the integumentary system	29			97.97		
All other diseases	5			16.89		
Heat-stroke						
Frost-bite and general freezing	1			3.38		
Contusions and sprains	24			81.08		
Dislocations			1			3.38
Fractures (not gunshot)						
Incised, lacerated, and punctured wounds	22			74.32		
Shot wounds	1			3.38		
All other injuries	10	1		33.78	3.38	
Total for disease	368	2	11	1,243.00	6.76	37.16
Total for injuries	58	1	1	196.00	3.38	3.38
Total for the region	426	3	12	1,439.00	10.14	40.54

Region of the Prairies.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	17	4	.....	4.41	1.04	.....
Other specific contagious and infectious diseases, including erysipelas	26	1	.....	6.74	.26	.....
Malarial fevers and resulting conditions	534	1	2	138.41	.26	.52
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera morbus	564	1	.....	146.19	.26	.....
Dysentery	36	3	.....	9.33	.78	.....
Other miasmatic diseases	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	105	.....	.....	27.22	.....	.....
Syphilis and results	76	.....	13	19.70	.....	3.37
Other venereal diseases	60	.....	1	15.55	.....	.26
Vaccina	33	.....	.....	8.55	.....	.....
Other enthetic diseases	13	.....	.....	3.37	.....	.....
Alcoholism	129	1	.....	33.44	.26	.....
Other dietic diseases	.....	.....	.....	.....	.....	.....
Rheumatism, including muscular	278	.....	10	72.06	.....	2.59
Other constitutional diseases	11	2	3	2.85	.52	.78
Developmental diseases	2	.....	6	.52	.....	1.56
Parasitic diseases	15	.....	.....	3.89	.....	.....
Headache and neuralgia	262	.....	2	67.91	.....	.52
Other diseases of the nervous system	44	3	6	11.40	.78	1.56
Diseases of the eye	59	.....	3	15.29	.....	.78
Diseases of the ear	28	.....	1	7.26	.....	.26
Catarrhs and common colds	299	.....	.....	77.50	.....	.....
Bronchitis	176	.....	.....	45.62	.....	.....
Pneumonia	15	1	.....	3.89	.26	.....
Pulmonary phthisis	20	4	13	5.18	1.04	3.37
Pleuritis	15	.....	.....	3.89	.....	.....
Other diseases of the respiratory system	40	.....	2	10.37	.....	.52
Diseases of the heart and valves	29	3	7	7.52	.78	1.81
Other diseases of the circulatory system	6	1	3	1.56	.26	.78
Tonsillitis	109	.....	.....	28.25	.....	.....
Dyspepsia, colic, and constipation	269	.....	.....	69.73	.....	.....
Other diseases of the digestive system	252	1	7	65.32	.26	1.81
Diseases of the kidneys	8	1	1	2.07	.26	.26
Other diseases of the genito-urinary system (not venereal)	68	.....	2	17.63	.....	.52
Diseases of the locomotor system	22	.....	8	5.70	.....	2.07
Diseases of the integumentary system	302	.....	1	78.28	.....	.26
All other diseases	52	.....	3	13.48	.....	.78
Heat-stroke	2	.....	.....	.52	.....	.....
Frost-bite and general freezing	39	3	.....	10.11	.78	.....
Contusions and sprains	489	.....	.....	126.75	.....	.....
Dislocations	7	.....	.....	1.81	.....	.....
Fractures (not gunshot)	20	.....	1	5.18	.....	.26
Incised, lacerated, and punctured wounds	180	1	.....	46.66	.26	.....
Shot wounds	13	5	2	3.37	1.30	.52
All other injuries	120	7	1	31.10	1.81	.26
Total for disease	39.74	27	94	1,030.	7.00	24.36
Total for injuries	8.70	16	4	226.	4.15	1.04
Total for the region	48.44	43	98	1,256.	11.15	25.40

Region of the Great Plains.

Table showing the causes, number, and ratio per 1,000 of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	24	6	.....	3.72	.93	.....
Other specific contagious and infectious diseases, including erysipelas	28	.....	.....	4.34	.....	.....
Malarial fevers, and resulting conditions	607	1	2	93.99	.15	.31
Typho-malarial fever	9	1	.....	1.39	.15	.....
Diarrhœa, including cholera-morbus	890	.....	3	137.81	.....	.46
Dysentery	86	.....	4	13.32	.....	.62
Other miasmatic diseases	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	229	.....	1	35.46	.....	.15
Syphilis and results	171	.....	20	26.48	.....	3.10
Other venereal diseases	88	.....	1	13.63	.....	.15
Vaccina	33	.....	.....	5.11	.....	.....
Other enthetic diseases	26	.....	1	4.03	.....	.15
Alcoholism	370	.....	.....	57.29	.....	.....
Other dietic diseases	1	.....	1	.15	.....	.15
Rheumatism, including muscular	662	.....	19	102.51	.....	2.94
Other constitutional diseases	28	1	3	4.34	.15	.46
Developmental diseases	2	.....	4	.31	.....	.62
Parasitic diseases	14	.....	.....	2.17	.....	.....
Headache and neuralgia	451	.....	2	69.84	.....	.31
Other diseases of the nervous system	69	5	18	10.68	.77	2.79
Diseases of the eye	152	.....	7	23.54	.....	1.08
Diseases of the ear	56	.....	5	8.67	.....	.77
Catarrhs and common colds	661	.....	.....	102.35	.....	.....
Bronchitis	364	1	1	56.36	.15	.15
Pneumonia	12	4	2	1.86	.62	.31
Pulmonary phthisis	14	1	8	2.17	.15	1.24
Pleuritis	13	.....	.....	2.01	.....	.....
Other diseases of the respiratory system	30	.....	3	4.65	.....	.46
Diseases of the heart and valves	60	4	17	9.29	.62	2.63
Other diseases of the circulatory system	8	1	4	1.24	.15	.62
Tonsillitis	345	.....	.....	53.42	.....	.....
Dyspepsia, colic, and constipation	464	.....	.....	71.85	.....	.....
Other diseases of the digestive system	450	8	13	69.68	1.24	2.01
Diseases of the kidneys	11	2	1	1.70	.31	.15
Other diseases of the genito-urinary system (not venereal)	95	.....	9	14.71	.....	1.39
Diseases of the locomotor system	48	.....	15	7.43	.....	2.32
Diseases of the integumentary system	523	.....	2	80.98	.....	.31
All other diseases	144	.....	3	22.30	.....	.46
Heat-stroke	13	1	.....	2.01	.15	.....
Frost-bite and general freezing	74	.....	2	11.46	.....	.31
Contusions and sprains	870	.....	1	134.72	.....	.15
Dislocations	12	.....	.....	1.86	.....	.....
Fractures (not gunshot)	45	1	2	6.97	.15	.31
Incised, lacerated, and punctured wounds	320	.....	2	50.94	.....	.31
Shot wounds	31	5	11	4.80	.77	1.70
All other injuries	237	10	9	36.70	1.55	1.39
Total for disease	7,238	35	169	1,121.	5.42	26.17
Total for injuries	1,611	17	27	249.	2.63	4.18
Total for the region	8,849	52	196	1,370.	8.05	30.35

Region of the Cordilleras.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	24	4	.....	3.96	.66	.....
Other specific, contagious, and infectious diseases, including erysipelas	35	.....	.....	5.77	.....	.....
Malarial fevers and resulting conditions	481	2	.....	79.27	.33	.....
Typho-malarial fever	29	1	.....	4.78	.16	.....
Diarrhœa, including cholera morbus	722	1	1	118.98	.16	.16
Dysentery	95	3	1	15.66	.49	.16
Other miasmatic diseases	1	.....	.....	.16	.....	.....
Gonorrhœa and results	125	.....	.....	20.60	.....	.....
Syphilis and results	90	.....	25	14.83	.....	4.12
Other venereal diseases	57	.....	.....	9.39	.....	.....
Vaccina	35	.....	.....	5.77	.....	.....
Other enthetic diseases	13	.....	.....	2.14	.....	.....
Alcoholism	258	.....	1	42.52	.....	.16
Other dietic diseases	2	.....	.....	.33	.....	.....
Rheumatism, including muscular	478	.....	15	78.77	.....	2.47
Other constitutional diseases	20	.....	3	3.30	.....	.49
Developmental diseases	4	.....	6	.66	.....	.99
Parasitic diseases	7	.....	.....	1.15	.....	.....
Headache and neuralgia	389	.....	.....	64.11	.....	.....
Other diseases of the nervous system	56	3	9	9.23	.49	1.48
Diseases of the eye	117	.....	9	19.28	.....	1.48
Diseases of the ear	36	.....	5	5.93	.....	.82
Catarrhs and common colds	227	.....	.....	37.41	.....	.....
Bronchitis	257	.....	.....	42.35	.....	.....
Pneumonia	17	5	3	2.80	.82	.49
Pulmonary phthisis	20	3	12	3.30	.49	1.98
Pleuritis	23	1	.....	3.79	.16	.....
Other diseases of the respiratory system	38	2	2	6.26	.33	.33
Diseases of the heart and valves	50	5	13	8.24	.82	2.14
Other diseases of the circulatory system	9	1	1	1.48	.16	.16
Tonsillitis	246	.....	.....	40.54	.....	.....
Dyspepsia, colic, and constipation	266	.....	2	43.84	.....	.33
Other diseases of the digestive system	309	1	7	50.92	.16	1.15
Diseases of the kidneys	18	.....	2	2.97	.....	.33
Other diseases of the genito-urinary system (not venereal)	81	1	8	13.35	.16	1.32
Diseases of the locomotor system	37	.....	10	6.10	.....	1.65
Diseases of the integumentary system	357	.....	3	58.83	.....	.49
All other diseases	143	1	4	23.57	.16	.66
Heat stroke	5	.....	.....	.82	.....	.....
Frost-bite and general freezing	15	.....	.....	2.47	.....	.....
Contusions and sprains	693	.....	1	114.21	.....	.16
Dislocations	21	.....	1	3.46	.....	.16
Fractures (not gunshot)	43	.....	4	7.09	.....	.66
Incised, lacerated, and punctured wounds	319	.....	.....	52.57	.....	.....
Shot wounds	47	11	5	7.75	1.81	.82
All other injuries	226	10	6	37.24	1.65	.99
Total for disease	5,172	34	142	852.00	5.60	23.40
Total for injuries	1,369	21	17	226.00	3.46	2.80
Total for region	6,541	55	159	1,078.00	9.06	26.20

Region of the Pacific Coast.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
Enteric fever	3	2	.....	2.17	1.45	.....
Other specific, contagious, and infectious diseases, including erysipelas	6	.....	.....	4.34	.....	.....
Malarial fevers and resulting conditions	91	.....	.....	65.85	.....	.....
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera mórbus	77	.....	.....	55.72	.....	.....
Dysentery	2	.....	.....	1.45	.....	.....
Other miasmatic diseases	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	29	.....	.....	20.98	.....	.....
Syphilis and results	23	.....	4	16.64	.....	2.89
Other venereal diseases	29	.....	.....	20.98	.....	.....
Vaccina	3	.....	.....	2.17	.....	.....
Other enthetic diseases	3	.....	.....	2.17	.....	.....
Alcoholism	102	.....	.....	73.81	.....	.....
Other dietic diseases	.....	.....	.....	.....	.....	.....
Rheumatism, including muscular	86	1	3	62.23	.72	2.17
Other constitutional diseases	4	1	.....	2.89	.72	.....
Developmental diseases	.....	.....	3	.....	.....	2.17
Parasitic diseases	2	.....	.....	1.45	.....	.....
Headache and neuralgia	58	.....	.....	41.97	.....	.....
Other diseases of the nervous system	16	.....	2	11.58	.....	1.45
Diseases of the eye	22	.....	2	15.92	.....	1.45
Diseases of the ear	5	.....	.....	3.62	.....	.....
Catarrhs and common colds	55	.....	.....	39.80	.....	.....
Bronchitis	39	.....	.....	28.22	.....	.....
Pneumonia	3	.....	.....	2.17	.....	.....
Pulmonary phthisis	3	.....	5	2.17	.....	3.62
Pleuritis	2	.....	.....	1.45	.....	.....
Other diseases of the respiratory system	10	.....	1	7.24	.....	.72
Diseases of the heart and valves	11	2	.....	7.96	1.45	.....
Other diseases of the circulatory system	2	.....	1	1.45	.....	.72
Tonsillitis	49	.....	.....	35.46	.....	.....
Dyspepsia, colic, and constipation	49	.....	.....	35.46	.....	.....
Other diseases of the digestive system	54	.....	1	39.07	.....	.72
Diseases of the kidneys	1	.....	.....	.72	.....	.....
Other diseases of the genito-urinary system (not venereal)	10	.....	.....	7.24	.....	.....
Diseases of the locomotor system	10	.....	2	7.24	.....	1.45
Diseases of the integumentary system	67	.....	.....	48.48	.....	.....
All other diseases	16	.....	.....	11.58	.....	.....
Heat stroke	.....	.....	.....	.....	.....	.....
Frost-bite and general freezing	.....	.....	.....	.....	.....	.....
Contusions and sprains	154	.....	.....	111.43	.....	.....
Dislocations	4	.....	.....	2.89	.....	.....
Fractures (not gunshot)	6	.....	1	4.34	.....	.72
Incised, lacerated, and punctured wounds	46	.....	.....	33.29	.....	.....
Shot wounds	6	2	1	4.34	1.45	.72
All other injuries	26	4	.....	18.81	2.89	.....
Total for disease	942	6	24	682.00	4.34	17.37
Total for injuries	242	6	2	175.00	4.34	1.45
Total for the region	1,184	12	26	857.00	8.68	18.81

The Whole Army.

Table showing the causes, number, and ratio per 1,000 *of mean strength, of admissions to sick report, deaths, and discharges for disability occurring during the year* 1886.

Causes of admission to sick report.	Admissions to sick report.	Deaths.	Discharges for disability.	Ratio per 1,000 of mean strength.		
				Admissions to sick report.	Deaths.	Discharges for disability.
				*	†	†
Enteric fever	93	22	.....	3.95	.84	.....
Other specific contagious and infectious diseases, including erysipelas	155	1	.....	6.58	.04	.....
Malarial fevers and resulting conditions	2,751	8	5	116.71	.31	.19
Typho-malarial fever	40	3	.....	1.70	.11	.....
Diarrhœa, including cholera morbus	3,210	2	9	136.18	.08	.34
Dysentery	240	6	5	10.18	.23	.19
Other miasmatic diseases	3	1	.....	.13	.04	.....
Gonorrhœa and results	784	.....	2	33.26	.....	.08
Syphilis and results	529	.....	85	22.44	.....	3.26
Other venereal diseases	382	.....	5	16.21	.....	.19
Vaccina	353	.....	.....	14.98	.....	.....
Other enthetic diseases	66	.....	1	2.80	.....	.04
Alcoholism	1,110	1	2	47.09	.04	.08
Other dietic diseases	3	.....	1	.13	.....	.04
Rheumatism, including muscular	1,956	2	52	82.98	.08	1.99
Other constitutional diseases	90	9	10	3.82	.34	.38
Developmental diseases	9	.....	23	.38	.....	.88
Parasitic diseases	70	.....	.....	2.97	.....	.....
Headache and neuralgia	1,523	.....	6	64.61	.....	.23
Other diseases of the nervous system	259	16	80	10.99	.61	3.07
Diseases of the eye	440	.....	29	18.67	.....	1.11
Diseases of the ear	169	.....	13	7.17	.....	.50
Catarrhs and common colds	1,907	.....	.....	80.90	.....	.....
Bronchitis	1,080	2	1	45.82	.08	.04
Pneumonia	70	16	5	2.97	.61	.19
Pulmonary phthisis	83	13	57	3.52	.50	2.18
Pleuritis	70	2	.....	2.97	.08	.....
Other diseases of the respiratory system	164	2	10	6.96	.08	.38
Diseases of the heart and valves	179	18	44	7.59	.69	1.69
Other diseases of the circulatory system	27	5	9	1.15	.19	.34
Tonsillitis	1,019	.....	.....	43.23	.....	.....
Dyspepsia, colic, and constipation	1,406	.....	3	59.65	.....	.11
Other diseases of the digestive system	1,407	12	42	59.69	.46	1.61
Diseases of the kidneys	54	7	9	2.29	.27	.34
Other diseases of the genito-urinary system (not venereal)	335	1	22	14.21	.04	.84
Diseases of the locomotor system	166	.....	42	7.04	.....	1.61
Diseases of the integumentary system	1,737	.....	8	73.69	.....	.31
All other diseases	493	1	14	20.91	.04	.54
Heat stroke	28	1	.....	1.19	.04	.....
Frost-bite and general freezing	160	3	3	6.79	.11	.11
Contusions and sprains	2 890	.....	2	122.60	.....	.08
Dislocations	52	.....	2	2.21	.....	.08
Fractures (not gunshot)	143	1	9	6.07	.04	.34
Incised, lacerated, and punctured wounds	1,126	1	2	47.77	.04	.08
Shot wounds	110	28	21	4.67	1.07	.80
All other injuries	820	46	17	34.79	1.76	.65
Total for disease	24,432	150	594	1,037.00	5.7	22.8
Total for injuries	5,329	80	56	226.00	3.1	2.1
Total for the Army	29,761	230	650	1,263.00	8.8	24.9

* Calculated on a mean strength of 23,572, as shown by the consolidated reports of the Medical Department.

† Calculated on a mean strength of 26,095, as shown by the Adjutant-General's returns.

Deaths and Discharges.

Table showing the deaths and discharges for disability in the U. S. Army, together with the ratio per 1,000 of mean strength and per 1,000 cases of each order of disease reported during the year.

DEATHS.

Diseases and injuries.	White.			Colored.		
	Number.	Ratio per 1,000 mean strength.	Ratio per 1,000 cases.	Number.	Ratio per 1,000 mean strength.	Ratio per 1,000 cases.
Specific febrile and acute infectious diseases	22	.9	126.4	1	.4	43.5
Malarial diseases	11	.5	4.3			
Diarrhœal diseases	8	.3	2.6			
Septic diseases	1	.04	19.2			
Venereal diseases						
Zoögenous diseases						
Dietic diseases	1	.04	.9			
Constitutional diseases	11	.5	13.0	1	.4	4.2
Developmental defects						
Diseases of the nervous system	14	.6	9.2	2	.8	7.7
Diseases of the eye						
Diseases of the ear						
Diseases of the nose						
Diseases of the respiratory sytem	31	1.3	10.7	3	1.3	6.6
Diseases of the circulatory system	21	.9	109.9	2	.8	133.3
Diseases of the digestive system	12	.5	3.6			
Diseases of the lymphatic system and ductless glands						
Diseases of the urinary system	6	.3	43.8	1	.4	58.8
Diseases of the reproductive system	1	.04	5.0			
Diseases of the locomotor system						
Diseases of the integumentary system						
Injuries (exclusive of homicide and suicide)	51	2.1	10.7	2	.8	3.6
Homicide	4	.2		5	2.1	
Suicide	18	.8				
Unclassified diseases	1	.04	3.5			
Aggregate	213	9.0	8.0	17	7.2	5.3

Table showing the deaths and discharges for disability, etc.—Continued.

DISCHARGES.

Diseases and injuries.	White.			Colored.		
	Number.	Ratio per 1,000 mean strength.	Ratio per 1,000 cases.	Number.	Ratio per 1,000 mean strength.	Ratio per 1,000 cases.
Specific febrile and acute infectious diseases						
Malarial diseases	5	.2	2.0			
Diarrhœal diseases	14	.6	4.5			
Septic diseases						
Venereal diseases	84	3.5	54.4	8	3.4	53.0
Zoögenous diseases	1	.04	2.6			
Dietic diseases	3	.1	2.7			
Constitutional diseases	44	1.9	52.2	14	5.9	58.3
Developmental defects	22	.9	1,000.0	1	.4	1,000.0
Diseases of the nervous system	80	3.4	52.5	6	2.5	23.2
Diseases of the eye	24	1.0	61.5	5	2.1	100.0
Diseases of the ear	13	.5	80.7			
Diseases of the nose	3	.1	125.0			
Diseases of the respiratory system	68	2.9	23.4	4	1.7	8.8
Diseases of the circulatory system	53	2.2	277.5			
Diseases of the digestive system	41	1.7	12.2	4	1.7	8.3
Diseases of the lymphatic system and ductless glands	3	.1	20.5			
Diseases of the urinary system	13	.5	94.9	2	.8	117.7
Diseases of the reproductive system	14	.6	69.7	2	.8	58.8
Diseases of the locomotor system	42	1.8	40.9	5	2.1	45.0
Diseases of the integumentary system	7	.3	4.3	1	.4	8.1
Injuries	50	2.1	10.5	6	2.5	10.6
Unclassified diseases	8	.3	28.2			
Aggregate	592	24.9	22.3	58	24.6	18.1

NOTE.—Indian scouts are not included in above table. Two died of pulmonary phthisis, one of valvular disease of the heart, one of crushing, and one of gunshot wound, or 16.1 per 1,000 of mean strength. One was discharged for pulmonary phthisis, or 3.2 per 1,000 of mean strength.

Cases of injury or disease occurring among recruits at depots, which existed or were contracted prior to enlistment, are excluded from this table.

RECRUITING SERVICE.

Tabular summary showing all rejections, with cause, and ratio per 1,000, among 14,913 recruits examined during the year 1886.

[Total number of recruits examined, 14,913; white, 13,652, colored, 1,261.]

Causes of rejection.	White.				Colored.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratio per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratio per 1,000.
Malarial diseases	1	1	2	.1	.....	.....	.....	.....
Enthetic diseases	345	3	348	25.5	54	.....	54	42.8
Dietic diseases	271	.....	271	19.9	5	.....	5	4.0
Constitutional diseases	26	.....	26	1.9	5	.....	5	4.0
Developmental defects	527	6	533	39.0	26	1	27	21.4
Parasitic diseases	39	.....	39	2.9	4	.....	4	3.2
Diseases of the nervous system	147	2	149	10.9	11	.....	11	8.7
Diseases of the eye	623	1	624	45.7	37	1	38	30.1
Diseases of the ear	164	4	168	12.3	7	.....	7	5.6
Diseases of the nose	8	2	10	.7	.....	.....	.....	.....
Diseases of the respiratory system	354	1	355	26.0	35	.....	35	27.8
Diseases of the circulatory system	709	7	716	52.4	32	1	33	26.2
Diseases of the digestive system	664	3	667	48.9	69	1	70	55.5
Diseases of the lymphatic system	32	1	33	2.4	7	.....	7	5.6
Diseases of the urinary system	9	1	10	.7	.....	.....	.....	.....
Diseases of the reproductive system	633	3	636	46.6	53	.....	53	42.0
Diseases and injuries of the locomotor system	707	2	709	51.9	67	1	68	53.9
Diseases of the integumentary system	242	2	244	17.9	15	1	16	12.7
Results of injuries	98	7	105	7.7	11	.....	11	8.7
General unfitness	621	.....	621	45.5	31	.....	31	24.6
Over age	55	.....	55	4.0	4	.....	4	3.2
Under age	267	.....	267	19.6	40	.....	40	31.7
Over height	60	.....	60	4.4	12	.....	12	9.5
Under height	230	.....	230	16.8	44	.....	44	34.9
Over weight	43	.....	43	3.1	19	.....	19	15.1
Under weight	189	.....	189	13.8	12	.....	12	9.5
Imperfect knowledge of English	99	.....	99	7.3	.....	.....	.....	.....
Doubtful character	59	.....	59	4.3	18	.....	18	14.3
Previously discharged for disability	5	.....	5	.4	.....	.....	.....	.....
Deserter from U. S. Army	1	.....	1	.1	.....	.....	.....	.....
Deserter from other army	3	.....	3	.2	.....	.....	.....	.....
Fraudulent enlistment	1	.....	1	.1	.....	.....	.....	.....
Unclassified	81	.....	81	5.9	17	.....	17	13.5
Aggregate	7,313	46	7,359	539.0	635	6	641	508.3

NOTE.—Indians are not included in this table; there were 542 examined, of which number 6 were rejected, or 11.1 per 1,000.

REPORT

OF THE

SURGEON GENERAL OF THE ARMY

TO THE

SECRETARY OF WAR

FOR THE

FISCAL YEAR ENDING JUNE 30, 1888.

WASHINGTON:
RECORD AND PENSION DIVISION.
SURGEON GENERAL'S OFFICE.
1888.

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REPORT

OF

THE SURGEON GENERAL.

SURGEON GENERAL'S OFFICE,
Washington, D. C., September 26, 1888.

SIR: I have the honor to submit herewith a statement of disbursements made during the fiscal year ended June 30, 1888, from the appropriation made by Act of Congress, approved February 9, 1887, for the expenses of the Medical Department of the Army, and the balance on hand at the close of said fiscal year, viz:

Medical and Hospital Department, 1888.

Appropriated by act approved February 9, 1887			$200,000.00
Refunded during the year:			
By Soldiers' Home, D. C., for supplies furnished		$593.84	
By Army Medical Museum, for supplies furnished		173.30	
By Quartermaster's Department, U. S. Army, for veterinary medicines furnished		4,506.64	
By the Signal Service, for medicines furnished		115.19	
By U. S. Military Prison, for medical supplies furnished		2.50	
By D. B. Jordan, jr., overpayment on salary		4.44	
And for supplies lost in transportation, etc		42.28	
			5,438.19
Total to be accounted for			205,438.19
Disbursed to June 30, 1888:			
For medical and hospital supplies		59,847.49	
For expenses of purveying depots		4,033.10	
For pay of employés, viz:			
Medical purveying depot, New York, N. Y.	$11,973.20		
Medical purveying depot, Saint Louis, Mo	12,568.84		
Medical purveying depot, San Francisco, Cal	6,219.96		
Office of medical director Division Atlantic	1,800.00		
Office of medical director Department Dakota	100.00		
U. S. A. Dispensary, Washington, D. C.	2,850.00		
		35,512.00	
For advertising		368.50	
For medical attendance, medicines, nursing, etc		4,932.52	
For miscellaneous expenses		1,207.76	
			105,901.37
Balance to be accounted for July 1, 1888			99,536.82
As follows:			
Balance in U. S. Treasury		75,644.46	
In hands of disbursing officers		23,892.36	
			99,536.82

Nearly all the balance remaining on hand at the close of the fiscal year has already been, or will be, expended in the payment for supplies contracted for and other obligations incurred prior to July 1, 1888.

The money value of the medical and hospital supplies actually issued during the fiscal year, ended June 30, 1888, was $178,034.14, and the cost of the supplies required for issue during the current fiscal year will undoubtedly exceed that amount. I base the estimate of the probable cost of the medical and hospital supplies which will be required for issue during the present fiscal year on the fact that the average money value of medical supplies issued annually during the fiscal years July 1, 1877, to June 30, 1888, was approximately $175,500, *exclusive of all other expenses.*

In this connection I respectfully invite your attention to accompanying estimate of appropriation required by the Medical Department of the Army for the service of the fiscal year ending June 30, 1890, as follows:

For the purchase of medical and hospital supplies, including disinfectants for general sanitation, expenses of medical purveying depots, pay of employés, medical care and treatment of officers and enlisted men of the Army on duty at posts and stations for which no other provision is made, for the proper care and treatment of cases in the Army suffering from contagious or epidemic diseases, and the supply of the Army and Navy Hospital at Hot Springs, Arkansas, advertising, and other miscellaneous expenses of the Medical Department: in all, $230,000; the amount to be expended for pay of civilian employés not to exceed $48,000.

The estimated amount will, it is believed, be necessary to meet the wants of the Medical Department for the purposes stated for the ensuing fiscal year. It becomes necessary from time to time to add to the standard supply table new remedies, new instruments and new standard medical books, and provide them for use by medical officers of the Army in the proper diagnosis and treatment of diseases and injuries incident to the service.

The limited number of contract surgeons allowed by law necessitates the employment of private physicians, under existing regulations, to furnish medical attendance to officers and enlisted men at stations where there is no medical officer of the Army. These physicians are paid by the visit from the "medical and hospital appropriation." Added to this is the necessary expenditure for the employment of skilled nurses for the proper care and treatment of cases of epidemic and contagious diseases.

The merging of the appropriation for the maintenance of the Army and Navy Hospital, Hot Springs, Ark., into the appropriation for the Medical and Hospital Department by the act, approved Sept. 22, 1888, adds to the amount to be expended for the pay of employés, the pay-roll of said hospital, which has been at the rate of $12,000 per year. The amount fixed by said act for pay of employés is $42,000, which in my judgment will not be sufficient to meet the necessities of the service for payment of employés at the medical purveying depots, medical directors' offices, and the U. S. Army Dispensary, Washington, D. C., heretofore allowed by law at $36,000, and paid from the appropriation for the Medical and Hospital Department—and, in addition thereto, the employés of the Hot Springs Hospital. The limit should therefore in my opinion be not less than $48,000.

The order of the President, prescribing the regulations for the administration and government of the Army and Navy Hospital, Hot Springs, Ark., provides that the employés of said hospital shall be *civilians.*

I have the honor to renew my recommendation made in my last annual report that, in order to facilitate the purchase and delivery of medical and hospital supplies, and for the best interests of the service with a view to economy, Congress be requested to grant authority in the purchase of medical and hospital supplies which cost less than five hundred dollars ($500), to make such purchases after due advertisement for bids, without entering into a formal written contract. In many instances a strict compliance with the letter of the law and existing regulations, in preparing the formal executory contracts, *five copies of which are required*, entails an expense to the Government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the law relating to purchases of Government supplies.

I have the honor to submit also a statement showing the expenditures during the last fiscal year from the appropriations for the Medical Department for *prior* fiscal years and the balances on hand June 30, 1888:

Medical and Hospital Department, 1887.

Balance on hand July 1, 1887		$104,125.70
Refunded during the year		87.05
Total to be accounted for		104,212.75
Disbursed during the year:		
For medical and hospital supplies	$56,729.69	
For expenses of purveying depots	1,332.45	
For medical attendance, etc	1,641.79	
For advertising	8.10	
For miscellaneous expenses	91.29	
		59,803.32
Balance to be accounted for July 1, 1888		44,409.43
As follows:		
Balance in U. S. Treasury	38,432.44	
In hands of disbursing officers	5,976.99	
		44,409.43

Medical and Hospital Department, 1886.

Balance on hand July 1, 1887		$43,944.63
Disbursed during the year	$20,132.90	
Transferred to surplus fund	14,415.82	
		34,548.72
Balance to be accounted for July 1, 1888		9,395.91
As follows:		
In hands of disbursing officers		9,395.91

Medical and Hospital Department, 1885 *and prior years.*

Appropriated by act approved February 1, 1888	67.00
Appropriated by act approved March 30, 1888	121.66
Total to be accounted for	188.66
Disbursed during the year	188.66

Medical and Hospital Department, 1882.

Balance on hand July 1, 1887	$452.00
Transferred to surplus fund	452.00

I have, also, the honor to submit a statement showing the expenditures made from the appropriations for the "Signal Service—Medical Department," during part of the last fiscal year, viz: July 1, 1887, to March 22, 1888, from which latter date all disbursements therefrom were made under the direction of the Chief Signal Officer of the Army, in pursuance of General Orders No. 14, Adjutant General's Office, March 9, 1888:

Signal Service—Medical Department, 1888.

Appropriated by act approved March 3, 1887	$2,000.00
Disbursed to March 22, 1888	1,548.38
Balance in U. S. Treasury March 22, 1888	451.62

Signal Service—Medical Department, 1887.

Balance on hand July 1, 1887	$344.47
Disbursed to March 22, 1888	20.00
Balance in U. S. Treasury March 22, 1888	324.47

Signal Service—Medical Department, 1886.

Balance on hand July 1, 1887	$3,418.82
Balance in U. S. Treasury March 22, 1888	3,418.82

Library of the Surgeon General's Office, 1887.

Balance from previous fiscal year	$324.37
Disbursed during the year	324.37

Library of the Surgeon General's Office, 1888.

Appropriated by act of February 9, 1887	$10,000.00
Disbursed during the year	9,738.83
Balance remaining June 30, 1888	261.17

Army Medical Museum, 1887.

Balance from previous fiscal year	$690.50
Disbursed during the year	690.50

Army Medical Museum, 1888.

Appropriated by act of February 9, 1887	$5,000.00
Disbursed during the year	3,803.69
Balance remaining June 30, 1888	1,196.31

Medical and Surgical History.

Balance from previous fiscal year	$4,254.22
Disbursed during the year	1,419.10
Balance June 30, 1888	2,835.12

Building for Army Medical Museum and Library.

Appropriated by act of August 4, 1886		$38,050.00
Disbursed in the year ending June 30, 1887	$9,909.99	
Disbursed in the year ending June 30, 1888	26,959.71	
		36,869.70
Balance June 30, 1888		1,180.30

Maintenance of Army and Navy Hospital at Hot Springs, Ark., viz: Pay of Civilian Employés, 1888.

Appropriated by act of February 9, 1887		$10,000.00
Disbursed during the year		9,998.98
Balance June 30, 1888		1.02

Artificial Limbs, 1885 and prior years.

Balance from previous fiscal year		$840.98
Appropriated by act of March 30, 1888		52.00
Refundment warrant		10.00
Total to be accounted for		902.98
Disbursed during the year	$62.00	
Carried to the surplus fund	840.98	
		902.98

Artificial Limbs, 1886.

Balance from previous fiscal year		$83,688.04
Disbursed during the year	$379.35	
Carried to the surplus fund	80,342.13	
		80,721.48
Balance June 30, 1888		2,966.56

Artificial Limbs, 1887.

Balance from previous fiscal year		$107,693.25
Disbursed during the year		6,258.06
Balance June 30, 1888		101,435.19

Artificial Limbs, 1888.

Appropriated by act of March 3, 1887		$130,000.00
Disbursed during the year		92,079.70
Balance June 30, 1888		37,920.30

Appliances for Disabled Soldiers, 1886.

Balance from previous fiscal year		$1,648.50
Carried to the surplus fund		1,648.50

Appliances for Disabled Soldiers, 1887.

Balance from previous fiscal year		*$1,792.00
Disbursed during the year		248.00
Balance June 30, 1887		1,544.00

Appliances for Disabled Soldiers, 1888.

Appropriated by act of March 3, 1887		$2,000.00
Disbursed during the year		227.80
Balance June 30, 1888		1,772.20

*NOTE. There was an error in the last annual report in giving the disbursements under "Appliances, 1887." The amount should have been $208 instead of $643.

Support and Medical Treatment of Destitute Patients, 1888.

Appropriated by act of March 3, 1887	$17,000.00
Disbursed during the year	17,000.00
Expended in furnishing trusses to disabled soldiers	5,748.66

There were furnished during the year:

In kind:	
Trusses	1,080
Artificial arms	3
Artificial legs	55
Artificial foot	1
Apparatus for legs	2
Miscellaneous appliances	8
By commutation:	
Artificial arms	315
Artificial hands	13
Artificial legs	146
Artificial feet	24
Apparatus for arms	737
Apparatus for legs	472

HEALTH OF THE ARMY FOR THE CALENDAR YEAR ENDING DECEMBER 31, 1887.

To facilitate the study of the influences exerted upon the health of troops by peculiarities of environment, the territory of the United States, over the whole of which the Army is dispersed in numerous small commands, has been divided into regions, each of which is characterized by distinct physical features and climatic conditions, and the various items of information embodied in this report have been arranged as far as possible in accordance with that division. Following the statistics relative to the health of the troops serving in the different regions, the subject of the health of the whole Army receives consideration, and the principal facts in connection therewith are given.

The regions into which the country has been divided for the purposes of this report are eleven in number, as follows: The Atlantic Coast, Eastern Timbered Plains and Hills, Appalachian, Northern Lakes, Central Timbered Plains and Hills, Alluvial, Gulf Coast, Prairies, Great Plains, Cordilleras, and Pacific Coast. Some of these regions, on account of their great extent north and south, have been subdivided into groups of military posts.

For convenience of reference the following description of the distinctive features of the different regions is reproduced from the last annual report:

Region of the Atlantic Coast.—This region comprises only a narrow strip of territory along the Atlantic sea-board, lying between the ocean and the region of Eastern Timbered Plains and Hills. In the northern portion the surface is mainly undulating and hilly, and presents substantially the same features as the region on its west. Along the coast of New Jersey, Delaware, Maryland, and Virginia, the ground is low, sandy, and, in places, marshy. From Virginia southward a large proportion of the area is swampy, and differs but little in general characteristics from the coast swamps which border the Gulf of Mexico.

Region of Eastern Timbered Plains and Hills.—This region, lying between the Atlantic Coast region on the east and the Appalachian Mountain region on the west, extends from the northern boundary of Maine to the coast swamps of the Gulf of Mexico. In Alabama, below the southern terminus of the Appalachian system, it meets, and is continuous with, the region of Central Timbered Plains and Hills. It comprises areas differing considerably in temperature, rain-fall, and elevation, but is uniform in the fact that it is quite universally covered with forests except where they have been cut away by the hands of man, and that it nowhere presents any high degree of relief. The New England part of the region is somewhat hilly, and, excepting in northern Maine, is largely cleared. In the Southern Atlantic States it constitutes the Atlantic plain, which, near the mountains, contains some outlying hills of the Blue Ridge, while eastward it slopes very gradually and uniformly toward the sea.

Region of the Appalachian Mountains.—This mountain region lies between the regions of Eastern and Central Timbered Plains and Hills, and extends in a southwesterly direction from the northern boundary of Maine to the northern central portion of Alabama, where it ceases. It is in general densely covered with forests, and enjoys a heavy rain-fall. Its greatest elevation is in the extreme north and south, and much of its area ranges from 1,000 to 7,000 feet above sea-level. Lying between the numerous ranges which make up the system are many valleys, whose elevation is much below the general level of the region.

Region of the Northern Lakes.—This region includes the area bordering on the St. Lawrence River and the Great Lakes, together with the interior of Michigan, northern Wisconsin, and

northeastern Minnesota, which are lacustrine in their character. The greater portion of the region is covered with heavy forests, which, together with the proximity of the Great Lakes and other smaller bodies of water, tend to reduce the extremes of temperature.

Region of Central Timbered Plains and Hills.—This area presents substantially the same features as the region of Eastern Timbered Plains and Hills, with which it is continuous in Alabama, and from which, to the northward, it is separated by the Appalachian system. Except the alluvial region of the Mississippi and Red Rivers, it includes all that area lying between the region of the Northern Lakes and the coast swamps of the Gulf of Mexico, and the Appalachian Mountains on the east and the region of the Prairies on the west. In Kentucky, Tennessee, Ohio, Indiana, and southern Illinois the country is somewhat broken, while in the Ozark region of Arkansas, Missouri, and Indian Territory the hills are still more abrupt. In southeastern Arkansas, Louisiana, and eastern Texas the surface is comparatively level, and is densely forested.

Alluvial Region.—This region comprises the swamp lands of the Mississippi and Red River valleys. No troops were stationed within its limits during the year.

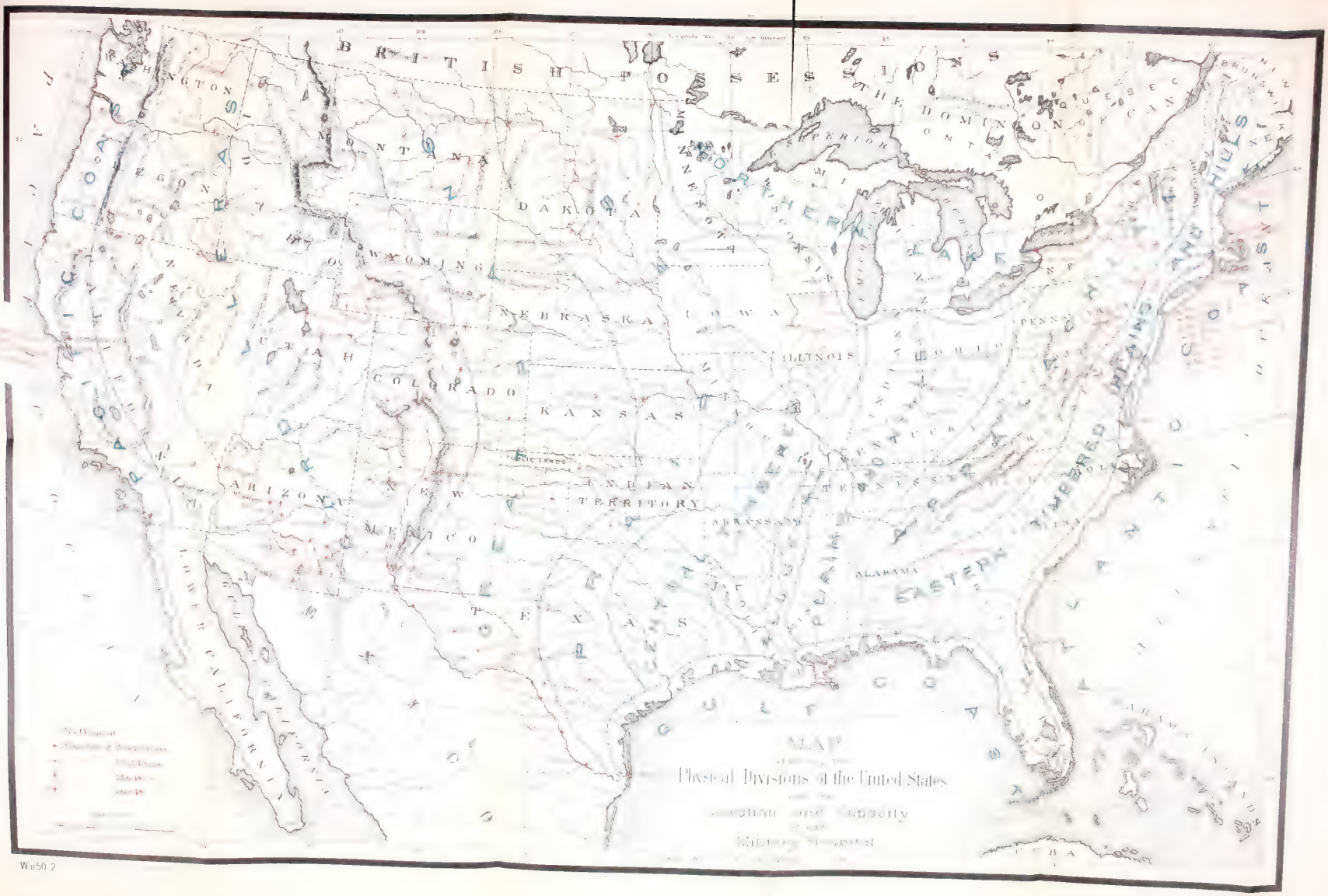
Region of the Gulf Coast.—This region includes those portions of Florida, Alabama, Mississippi, Louisiana, and Texas which border on the Gulf of Mexico. It is continuous with, and similar in character to, the coast swamps of the southern Atlantic coast. Nearly all of it is low and marshy, with a hot climate, tempered somewhat by proximity to the sea, and an extremely moist atmosphere.

Region of the Prairies.—This region extends from the British possessions to the Gulf of Mexico, and may be looked upon, both as regards physical features and climatic conditions, as a transition ground, with no well-defined line of demarkation, between the regions of Central Timbered Plains and Hills and the Northern Lakes on the east, and the Great Plains on the west. Its surface is level or gently undulating, and its timbered area ranges from 20 per cent. down to zero.

Region of the Great Plains.—The region thus designated stretches from the northern to the southern boundary of the country, and from the base of the Rocky Mountains on the west to the Prairie region, into which it imperceptibly merges on the east. Its features are, in general, those of an arid, treeless plain. The surface is undulating, with few or no sharp changes of level, and its elevation ranges from about 2,000 feet along the eastern border, to 5,000 or 6,000 along the western border, at the base of the Rocky Mountains. Toward the southern border the elevation gradually diminishes until the Rio Grande is reached. In this vicinity some of the military stations have an elevation of less than 1,000 feet; but, with this exception, all posts in the region of the Great Plains are more than 2,000 feet above the level of the sea. The rain-fall of this region is universally small; timber growth is almost entirely absent; the aridity of the atmosphere is great, and, in general, increases from north to south and from east to west; the thermometric variations, both diurnal and annual, are excessive; and, during certain seasons, violent and long-continued wind storms, often accompanied by rain, snow, or hail, are of frequent occurrence.

Region of the Cordilleras.—The region thus designated comprises all that vast area stretching from the northern to the southern boundary of the country, and from the Rocky Mountains on the east to the Cascade Range and the Sierra Nevada on the west. It may be roughly described as a high plateau, whose elevation, greatest through its center from east to west, gradually falls off toward the north and south from that central line. This plateau has built upon it a great number of ranges of mountains and isolated volcanic cones, and is further diversified by numerous cañons, valleys, basins, sinks, and parks. Over much of the area the elevation ranges from 6,000 up to 10,000 feet. A few military stations located in the extreme northern and southern portions of the region have an elevation ranging from 3,000 down to less than 1,000 feet, but, with these exceptions, the posts in the region of the Cordilleras are over 4,000 feet above the level of the sea. The northern parts of the region and the higher mountains enjoy a tolerably heavy rain-fall, so that they are more or less covered with forests. The southern portion and the valleys, except those in the northern part of the area, receive comparatively little rain and are generally treeless. The distribution of temperature is quite similar: upon the higher mountains an almost arctic climate prevails, while the southern and lower parts of this area are among the hottest portions of the United States.

Region of the Pacific Coast.—This region comprises the whole of the western border of the country lying between the Cascade Range and the Sierra Nevada on the east and the Pacific Ocean on the west. The surface is broken by a complex range of mountains, known as the Coast Range, running parallel to the coast. East of this range is a great valley extending from Puget Sound to the southern part of California, occupied in Oregon by the Willamette and other rivers, and in California by the Sacramento and the San Joaquin. The whole region has a wet and a dry season, corresponding to the summer and winter of other parts of the country, but the amount of rain-fall is not by any means uniform over the whole area. The northern portion is excessively watered, the rain-fall in some seasons exceeding 100 inches per annum, while the southern part is, in general, extremely arid.


BRITISH POSSESSIONS
THE DOMINION
WASHINGTON
OREGON
MONTANA
DAKOTA
WYOMING
NEBRASKA
IOWA
ILLINOIS
COLORADO
KANSAS
UTAH
ARIZONA
NEW MEXICO
INDIAN TERRITORY
TEXAS
ALABAMA
GEORGIA
CUBA
GULF OF MEXICO
LOWER CALIFORNIA
PUBLIC LANDS
MAP
Physical Divisions of the United States

Wu50.2

The following table shows the average, for each region, of all the observations reported on temperature, rain-fall, and relative humidity of the atmosphere:

Regions and their groups.	Temperature (degrees Fahrenheit).				Relative humidity.	Rain-fall, inches.
	Maximum.	Minimum.	Daily range.	Annual.		
Atlantic Coast	94	9	15	55.5	77	45.60
Eastern Timbered Plains and Hills	101	5	18	57.3	70	45.94
Appalachian Mountains	97	—6	20	52.9	69	43.43
Northern Lakes	95	—14	17	44.6	75	29.16
Central Timbered Plains and Hills	100	0	19	59.7	68	36.79
Gulf Coast	95	22	14	68.9	78	51.13
Prairies: Northern Group	98	—38	22	40.3	73	20.41
Prairies: Middle Group	101	—20	20	51.2	68	29.41
Prairies: Southern Group	102	8	23	64.1	63	26.31
Great Plains: Northern Group	99	—42	24	41.0	67	19.35
Great Plains: Middle Group	101	—19	26	51.9	64	20.93
Great Plains: Southern Group	99	5	25	63.8	55	19.39
Cordilleras: Northern Group	95	—16	23	46.0	63	15.86
Cordilleras: Middle Group	94	— 2	24	49.1	50	14.13
Cordilleras: Southern Group	108	11	31	62.6	52	14.52
Pacific Coast: Northern Group	88	14	14	49.3	82	59.79
Pacific Coast: Southern Group	99	31	20	60.1	68	19.23

REGION OF THE ATLANTIC COAST.

Two or more subdivisions of this region might properly be made, but, as all but two of the fifteen posts in the whole area, from which reports of medical officers were received during the year, are situated in the northern part, and are subjected to practically the same climatic conditions, it has not been thought advisable to arrange them in groups, as has been done in other regions, in different portions of which very dissimilar conditions prevail.

The following table shows the stations in the region of the Atlantic Coast, with mean strength of command, ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Preble, Me	39	65	12	77	1,974.36	1.79	45.87	1	1
Fort Warren, Mass	73	59	20	79	1,082.19	3.21	43.91	.....	1
Watertown Arsenal, Mass	33	37	7	44	1,333.33	2.22	67.33	2	.....
Fort Adams, R. I	235	173	43	216	919.15	9.22	39.24	6	.....
Fort Trumbull, Ct	70	25	8	33	471.43	1.42	20.36	2	.....
Fort Columbus, N. Y	153	133	22	155	1,013.07	3.81	24.87	4	1
Fort Schuyler, N. Y	69	71	21	92	1,333.33	2.70	39.19	4	1
Fort Hamilton, N. Y	175	152	41	193	1,102.86	5.65	32.31	3	1
Fort Wadsworth, N. Y	40	29	7	36	900.00	.80	19.92	3	.....
Fort Wood, N. Y	15	3	.....	3	200.00	.04	2.40	.....	.....
David's Island, N. Y	574	736	89	825	1,437.28	22.69	39.53	9	3
Willets Point, N. Y	380	760	130	890	2,342.11	20.71	54.50	18	4
New York City, N. Y	61	4	.....	4	65.57	.77	12.67	.....	.....
Fort Monroe, Va	257	308	52	360	1,400.78	10.71	41.67	4	3
St. Francis Barracks, Fla	96	141	24	165	1,718.75	3.93	40.95	6	.....
Field	15	14	1	15	1,000.00	.07	4.40	.....	.....
Total	2,285	2,710	477	3,187	1,394.75	89.74	39.27	62	17

The force serving in this region during the year consisted of 26 batteries of artillery, the battalion of engineers, 2 detachments of ordnance, and the general service recruits at David's Island, N. Y.

The mean strength, including officers, was 2,285 men, of whom 2,267 were white and 18 colored (of African descent). The total number of admissions to sick report was 3,187; of this number 1,512 were treated in quarters, 1,660 in hospital, and 15 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 29, in hospital 61, total 90; from disease 75, injury 15. The discharges for disability numbered, from quarters 21, hospital 41, total 62; for disease 56, for injury 6. The deaths numbered, in quarters 10, hospital 7, total 17; from disease 9, injury 8.

The admission rate per 1,000 of mean strength was 1,395 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 726. The ratio of deaths per 1,000 of mean strength was 7.44, in the proportion of 3.06 in hospital, and 4.38 in quarters; 3.94 from disease, and 3.50 from injury; that of discharges for disability was 27.13, in the proportion of 17.94 from hospital, and 9.19 from quarters; 24.51 for disease, and 2.62 for injury; and that of constant non-effectiveness on account of sickness was 39.27, in the proportion of 26.64 in hospital, 12.60 in quarters, and .93 in the field; 32.77 from disease, and 6.50 from injury.

The average duration of each case of sickness was, for those treated in hospital 13 days, in quarters 7 days, in the field 1 day; for disease 10.1 days, for injury 11.4 days, for all cases admitted 10.3 days; and the total loss of time on account of sickness averaged 14 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 9 days, for those who were discharged for disability 72 days, and for those who died 25 days. The ratio of recoveries per 1,000 of all admissions to sick report was 965, of discharges for disability 19, and of deaths 5.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region of the Atlantic Coast during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance, as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. (days).	Average for each case. (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	5,420	11.4	477	8	6	6.50	208.75	3.50	2.63
Diseases of the respiratory system	3,662	9.6	383	2	5	4.39	167.61	.88	2.19
Venereal diseases	3,169	21.6	147	.....	8	3.80	64.33	.....	3.50
Diseases of the digestive system	3,121	7.5	417	.....	7	3.74	182.49	.....	3.06

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. days.	Average for each case. days.	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the locomotor system	2,258	14.6	155	.....	5	2.71	67.83	.....	2.19
Diseases of the integumentary system	2,211	9.6	230	.....	1	2.65	100.66	.....	.44
Diarrhœal diseases (includ'g cholera morbus)	1,819	4.1	448	1	1	2.18	196.06	.44	.44
Specific febrile and acute infectious diseases	1,754	20.2	87	3	.....	2.10	38.07	1.31	.....
Zoögenous diseases	1,565	10.4	150	.....	.....	1.88	65.65	.....	.....
Malarial diseases	1,359	8.7	156	.....	.....	1.63	68.27	.....	.....
Diseases of the genito-urinary system (non-venereal)	1,226	31.4	39	.....	7	1.47	17.07	.....	3.06
Constitutional diseases	1,183	17.9	66	.....	5	1.42	28.88	.....	2.19
Diseases of the nervous system	1,117	8.7	129	1	8	1.34	56.46	.44	3.50
Dietic diseases	585	3.4	171	.....	.....	.70	74.84	.....	.....
Diseases of the circulatory system	575	71.9	8	.....	2	.69	3.50	.....	.88
Diseases of the eye	382	10.6	36	.....	1	.46	15.75	.....	.44
Diseases of the lymphatic system	332	19.5	17	.....	.....	.40	7.44	.....	.....
Septic diseases	331	47.3	7	1	.....	.40	3.06	.44	.....
Diseases of the ear	233	10.6	22	.....	.....	.28	9.63	.....	.....
Developmental diseases	170	85.0	2	.....	5	.20	.87	.....	2.19
Parasitic diseases	150	13.6	11	.....	.....	.18	4.81	.....	.....
Typho-malarial fever	22	22.0	1	1	.....	.03	.44	.44	.....
Diseases of the nose	1	1.0	1	.....	.....	.....	.44	.....	.....
Unclassified	111	4.1	27	.....	1	.13	11.82	.....	.44
Total	32,756	10.3	3,187	17	62	39.27	1,394.75	7.44	27.13

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 1.75 per 1,000 of mean strength; for *pneumonia* it was 6.12; for *bronchitis*, 103.28; for *catarrh and common colds*, 45.52; for *acute articular rheumatism*, 2.63; for *articular rheumatism (subacute and chronic)*, 22.32; for *muscular rheumatism*, 59.52; for *cholera morbus*, 10.94; for *diarrhœa (acute and chronic)*, 175.49; for *dysentery (acute and chronic)*, 9.63; for *paroxysmal (malarial) fevers*, 68.27; for *typhoid fever*, 10.07.

Of the class of *specific febrile and acute infectious diseases*, 87 admissions to sick report, or a rate of 38.07 per 1,000 of mean strength, were reported for the region during the year: of this number, 6 cases, or a rate of 333.33 per 1,000 of mean strength, occurred among the colored troops.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Atlantic Coast during the year comprised the months of May, June, and July, when the constant non-effective rate averaged 41 per 1,000 of mean strength. The principal causes of this non-effectiveness were, in the order of their relative importance, contusions and sprains, vaccina, diarrhœa, articular rheumatism, syphilis, and gonorrhœa.

July showed a greater number of admissions to sick report than any other month of the year, its rate being 173.61 per 1,000 of mean strength: the constant non-effective rate was highest in May, 43.03 per 1,000. The greatest number of deaths in any one month was 4, reported for September.

The period of *least sickness* appears to have been during the months of November and December, the constant non-effective rate for this period being 35.27 per 1,000 of mean strength.

In the above computations all cases of disease or injury have been included; but if, in order to obtain figures which will show the relative healthfulness of different localities, or of the same locality at different seasons, cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that July, August, and September furnished the greatest amount of sickness, and that the prevalent diseases, in the order of their relative importance, were diarrhœa, malarial fever, typhoid fever, and dysentery, and that the constant non-effective rate was 29.99 per 1,000 of mean strength, that for the whole year being 28.27.

Excluding the class of cases mentioned above, the period of least sickness remains unchanged, comprising the months of November and December, the constant non-effective rate being 23.51 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Willets Point, N. Y.*, furnished the highest admission rate for the year, 2,342.11 per 1,000 of mean strength: *Watertown Arsenal, Mass.*, the highest constant non-effective rate, 67.33 per 1,000. *Fort Preble, Maine*, gave the highest death-rate, 25.64 per 1,000 of mean strength.

CIVILIANS WITH COMMAND.—With a mean strength of 2,285 officers and enlisted men serving in the region of the Atlantic Coast, there was constantly present during the year an average of 1,817 civilians, comprising the families of officers and enlisted men, servants, civilian employés, etc. Of this number 223 were adult males, 693 adult females, and 901 children. The admissions to sick report numbered for the adult males 83, with no deaths: for the adult females 632, and the deaths 4; for the children 745, and the deaths 11: or an aggregate of 1,460 admissions and 15 deaths.

The period of *greatest sickness* among the civilian attachés comprised the month of August, the prevailing diseases being those of the digestive and respiratory systems.

The *least sickness* among civilians was reported during the month of June.

REGION OF EASTERN TIMBERED PLAINS AND HILLS.

Of the 9 military stations in this area, all have elevations ranging from 36 to 600 feet above the level of the sea.

The following table shows the stations in the region, with mean strength of command, ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Kennebec Arsenal, Me.	16	39	1	40	2,500.00	.43	27.06	.....	.....
Springfield Armory, Mass	40	39	5	44	1,100.00	.94	23.42	.....	1
West Point, N. Y	328	299	70	369	1,125.00	7.44	22.69	1	2
Frankford Arsenal, Pa.	34	32	2	34	1,000.00	.99	29.26	.....	1
Philadelphia, Pa.	20	.....	.....	.....	.....	.....	.....	.....	.....
Fort McHenry, Md	117	172	19	191	1,632.48	6.98	59.67	5	3
Fort Myer, Va	64	104	30	134	2,093.75	2.67	41.73	4	1
Washington B'ks, D. C.	267	425	47	472	1,767.79	12.16	45.54	4	1
Augusta Arsenal, Ga.	27	17	2	19	703.70	.56	20.81	1	.....
Field	4	4	2	6	1,500.00	.02	5.50	.....	.....
Total	917	1,131	178	1,309	1,427.48	32.20	35.11	15	9

The force serving in this region during the year consisted of portions of one regiment of artillery, one company of the engineer battalion, detachments of ordnance, and the unassigned artillery and cavalry detachments at West Point, N. Y.

The mean strength, including officers, was 917 men. The total number of admissions to sick report was 1,309; of this number, 802 were treated in quarters, 501 in hospital, and 6 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 13, in hospital 19, total 32; from disease 27, injury 5. The discharges for disability numbered, from quarters 6, from hospital 9, total 15; for disease 13, for injury 2. The deaths numbered, in quarters 2, in hospital 7, total 9; from disease 8, injury 1.

The admission rate per 1,000 of mean strength was 1,427 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 546. The ratio of deaths per 1,000 of mean strength was 9.81, in the proportion of 2.18 in quarters, and 7.63 in hospital; 8.72 from disease, and 1.09 from injury; that of discharges for disability was 16.36, in the proportion of 6.54 from quarters, and 9.82 from hospital; 14.18 for disease, and 2.18 for injury; and that of constant non-effectiveness was 35.11, in the proportion of 13.90 in quarters, 21.19 in hospital, and .02 in the field: 29.45 from disease, and 5.66 from injury.

The average duration of each case of sickness was, for those treated in quarters 6 days, in hospital 14 days; for disease 8.7 days, and for injury 10.7 days; for all cases admitted 9.0 days; and the total loss of time on account of sickness averaged 13 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 8 days, for those who were discharged for disability 56 days, and for those who died 17 days. The ratio of recoveries per 1,000 of all admissions to sick report was 969, of discharges for disability 11, and of deaths 7.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region of the Eastern Timbered Plains and Hills during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. (days).	Average for each case. (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	1,896	10.7	178	1	2	5.66	194.11	1.09	2.18
Venereal diseases	1,687	25.6	66	.....	4	5.04	71.97	.....	4.36
Malarial diseases	1,544	6.4	242	1	.....	4.61	263.90	1.09	.....
Diseases of the respiratory system	1,351	7.8	174	3	1	4.04	189.75	3.27	1.09
Diseases of the digestive system	1,088	8.8	124	.....	1	3.25	135.22	.....	1.09

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Constitutional diseases	728	13.0	56	.....	2	2.18	61.07	.....	2.18
Diarrhœal diseases	615	3.3	189	.....	.....	1.84	206.11	.....	.....
Diseases of the integumentary system	518	8.0	65	.....	.....	1.55	70.88	.....	.....
Specific febrile and acute infectious diseases	405	20.2	20	1	.....	1.21	21.81	1.09	.....
Diseases of the circulatory system	371	46.4	8	1	1	1.11	8.72	1.09	1.09
Diseases of the nervous system	347	5.7	61	2	2	1.04	66.52	2.18	2.18
Diseases of the locomotor system	247	8.2	30	.....	1	.74	32.72	.....	1.09
Diseases of the genito-urinary system (non-venereal)	244	15.2	16	.....	1	.73	17.49	.....	1.09
Diseases of the eye	229	13.5	17	.....	.....	.68	18.54	.....	.....
Dietic diseases	209	5.5	38	.....	.....	.62	41.44	.....	.....
Diseases of the lymphatic system	79	26.3	3	.....	.....	.24	3.27	.....	.....
Septic diseases	69	23.0	3	.....	.....	.21	3.27	.....	.....
Parasitic diseases	38	9.5	4	.....	.....	.11	4.36	.....	.....
Diseases of the ear	20	5.0	4	.....	.....	.06	4.36	.....	.....
Zoögenous diseases	15	3.7	4	.....	.....	.04	4.36	.....	.....
Diseases of the nose	14	14.0	1	.....	.....	.04	1.09	.....	.....
Unclassified diseases	39	6.5	6	.....	.....	.12	6.54	.....	.....
Total	11,753	9.0	1,309	9	15	35.11	1,427.48	9.81	16.36

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 4.36 per 1,000 of mean strength; for *pneumonia*, 6.54; for *pleuritis*, 4.36; for *bronchitis*, 118.87; for *catarrh and common colds*, 53.44; for *acute articular rheumatism*, 2.18; for *articular rheumatism (subacute and chronic)*, 54.53; for *muscular rheumatism*, 31.62; for *diarrhœa (acute and chronic)*, 184.29; for *dysentery (acute and chronic)*, 5.45; for *cholera morbus*, 16.36; for *paroxysmal (malarial) fevers*, 263.90, and for *typhoid fever*, 4.36. Of the class of *specific febrile and acute infectious diseases* 20 admissions to sick report, or a rate of 21.81 per 1,000 of mean strength, were reported in the whole region during the year.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of Eastern Timbered Plains and Hills during the year comprised the months of October, November, and December. During this period the number constantly non-effective on account of sickness averaged 39.67 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, intermittent fever, contusions and sprains, articular rheumatism, syphilis, and typhoid fever. The rate of constant non-effectiveness for the year was 35.11 per 1,000 of mean strength.

July, August, and September were the months which showed the greatest number of admissions to sick report during the year, the rates per 1,000 of mean strength averaging 153.09 for each. The number constantly non-effective on account of sickness was greatest in December, the ratio per 1,000 of mean strength being 41.64. The greatest number of admissions was reported in July, the ratio per 1,000 of mean strength being 161.55. The greatest number of deaths occurred in July and November, 2 having been reported for each month.

The period of *least sickness* appears to have been during the months of April and May, the constant non-effective rate for this period being 29.31 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that while the period of greatest sickness remains the same, the principal causes of disability are intermittent fever, articular rheumatism, typhoid fever, and bronchitis, in the order of their relative importance. The constant non-effective rate for this period was 28.21, and for the year (still excluding the above-mentioned diseases and injuries), 23.93 per 1,000 of mean strength.

According to this calculation the period of least sickness, as before, comprised the months of April and May, but the constant non-effective rate was 19.05 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Kennebec Arsenal, Maine*, furnished the highest admission rate for the year, 2,500 per 1,000 of mean strength; but, as this rate is based upon a mean strength of only 16 men, it is not considered reliable. The next highest admission rate, 2,093.75 was reported at *Fort Myer, Va.* The highest non-effective rate, 59.67 per 1,000, was that of *Fort McHenry, Md.*, and the highest death-rate, 29.41 per 1,000, that of *Frankford Arsenal, Pa.*

CIVILIANS WITH COMMAND.—With a mean strength of 917 officers and enlisted men serving in the region, there was constantly present during the year an average of 1,098 civilians. Of this number 181 were adult males, 424 adult females, and 493 children. The admissions to sick report numbered, for the adult males 72, and the deaths 1; for the adult females 451, and the deaths 4; for the children 606, and the deaths 6; or an aggregate of 1,129 admissions and 11 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of November, the prevailing diseases being those of the respiratory and digestive systems.

The *least sickness* among civilians was reported during the month of June.

REGION OF THE APPALACHIAN MOUNTAINS.

There are but two permanent military stations in the whole area, both arsenals, and occupied by a very small number of men.

The following table shows the stations in the region of the Appalachian Mountains, with mean strength of command, and ratios of admission to sick report, constant non-effectiveness, discharges and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Watervliet Arsenal, N. Y.	40	52	9	61	1,525.00	1.31	32.67	.....	1
Allegheny Arsenal, Pa.	28	20	4	24	857.14	.47	16.64	.....	2
Total	68	72	13	85	1,250.00	1.77	26.07	.....	3

The force serving in this region during the year consisted of two detachments of ordnance.

The mean strength, including officers, was 68 men. The total number of admissions to sick report was 85; of this number 71 were treated in quarters and 14 in hospital. The number of men daily non-effective on account of sickness averaged, in quarters 1.02, in hospital .75, total 1.77; from disease 1.55, injury .22. No discharges for disability occurred during the year. The deaths numbered, in quarters 2, in hospital 1, total 3; for disease 3, injury 0.

The admission rate per 1,000 of mean strength was 1,250 for all men who were excused from any part of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 206. The ratio of deaths per 1,000 of mean strength was 44.12, in the proportion of 29.41 in quarters, and 14.71 in hospital: 44.12 from disease, and none from injury. The ratio of constant non-effectiveness was 26.07, in the proportion of 14.98 in quarters, and 11.09 in hospital; 22.85 for disease, and 3.22 for injury.

The average duration of each case of sickness was, for those treated in quarters 5 days, in hospital 20 days; for disease 7.9 days, for injury 6.1 days; for all cases admitted 7.6 days; and the total loss of time on account of sickness averaged 10 days for each soldier in the command.

The average duration of treatment for all patients who recovered and were returned to duty was 5 days, and for those who died 7 days. The ratio of recoveries per 1,000 of all admissions to sick report was 859, and of deaths 35.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Specific febrile and acute infectious diseases	167	33.4	5	1	.....	6.73	73.53	14.71	.....
Venereal diseases	87	21.7	4	.....	.....	3.51	58.82	.....	.....
Diseases of the digestive system	86	9.6	9	.....	.....	3.46	132.35	.....	.....
Injuries	80	6.2	13	.....	.....	3.22	191.18	.....	.....
Diseases of the locomotor system	62	6.9	9	.....	.....	2.50	132.35	.....	.....
Diarrhœal diseases	60	3.2	19	.....	.....	2.42	279.41	.....	.....
Diseases of the respiratory system	45	4.5	10	2	.....	1.81	147.06	29.41	.....
Constitutional diseases	22	5.5	4	.....	.....	.89	58.82	.....	.....
Diseases of the nervous system	16	2.7	6	.....	.....	.65	88.24	.....	.....
Diseases of the integumentary system	11	11.0	1	.....	.....	.44	14.71	.....	.....
Malarial diseases	9	2.2	4	.....	.....	.36	58.82	.....	.....
Dietic diseases	2	2.0	1	.....	.....	.08	14.71	.....	.....
Total	647	7.6	85	3	.....	26.07	1,250.00	44.12	.....

SPECIAL DISEASES.—For *pneumonia* the admission rate was 29.41 per 1,000 of mean strength; for *bronchitis*, 102.94; for *catarrh and common colds*, 14.71; for *acute articular rheumatism*, 14.71; for *articular rheumatism* (*subacute and chronic*), 44.12; for *muscular rheumatism*, 102.94; for *diarrhœa* (*acute and chronic*), 264.70; for *cholera morbus*, 14.71; for *paroxysmal* (*malarial*) *fevers*, 58.82, and for *typhoid fever*, 29.41.

Of the class of *specific febrile and acute infectious diseases* 5 admissions to sick report, or a rate of 73.53 per 1,000 of mean strength, were reported in the whole region during the year.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury the period of *greatest sickness* among the troops serving in the region of the Appalachian Mountains during the year comprised the months of November and December. During this period the number constantly non-effective averaged 71.87 per 1,000 of mean strength, and the principal causes of this non-effectiveness were typhoid fever, injuries, and venereal diseases.

December showed a greater number of admissions to sick report than any other month of the year, the rate per 1,000 of mean strength being 197.53, also a higher rate of constant non-effectiveness, 90.00 per 1,000.

The period of *least sickness* was during April and May, the constant non-effective rate being 2.68 per 1,000 of mean strength.

In the above computation all cases of disease and injury have been included. Excluding from the calculation injuries, venereal diseases, and alcoholism, the period of greatest sickness remains unchanged, but the principal diseases were typhoid fever, enteritis, and synovitis, and the constant non-effective rate 53.52 per 1,000 of mean strength, that for the year being 19.26.

Excluding injuries, venereal diseases, and alcoholism, the period of least sickness covered the months of May and June, the constant non-effective rate being 1.34 per 1,000 of mean strength.

CIVILIANS WITH COMMAND.—With a mean strength of 68 officers and enlisted men serving in the region, there was constantly present during the year an average of 132 civilians. Of this number 8 were adult males, 48 adult females, and 76 children. The admissions to sick report numbered for the adult males 3, with no deaths; for the adult females 36, with no deaths; for the children 45, and the deaths 3; or an aggregate of 84 admissions and 3 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of January, the prevailing diseases being those of the respiratory system.

The *least sickness* was reported during the month of September.

REGION OF THE NORTHERN LAKES.

There are 12 military stations in this area, ranging in elevation from 262 to 840 feet above the level of the sea.

The following table shows the stations in the region, with mean strength of command, ratios of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Brady, Mich	72	82	26	108	1,500.00	1.65	22.90	.....	.....
Fort Mackinac, Mich	73	52	20	72	986.30	2.22	30.48	4	1
St. Paul, Minn	29	1	.....	1	34.48	.....	.10	.....	.....
Fort Snelling, Minn	300	138	56	194	646.67	7.02	23.41	11	2
Plattsburg B'ks, N. Y	41	20	6	26	634.15	1.03	25.12	.....	.....
Madison B'ks, N. Y	225	164	47	211	937.78	6.66	29.59	2	2
Fort Ontario, N. Y	41	39	5	44	1,073.17	1.41	34.34	1	1
Fort Niagara, N. Y	87	44	12	56	643.68	1.68	19.37	3	.....
Fort Porter, N. Y	75	72	19	91	1,213.33	2.39	31.93	.....	1
Fort Wayne, Mich	166	204	33	237	1,427.71	6.00	36.13	4	4
Chicago, Ill	51	10	2	12	235.29	.46	9.08	.....	.....
Camp at Highwood, Ill.	12	7	3	10	833.33	.21	17.83	.....	.....
Field	35	12	3	15	428.57	.30	8.60	.....	.....
Total	1,207	845	232	1,077	892.29	31.05	25.72	25	11

The force serving in this region during the year consisted of two entire regiments, and a portion of a third regiment, of infantry, and one battery of artillery; also, one troop of cavalry for 20 days only.

The mean strength, including officers, was 1,207 men, of whom 1,000 were white and 207 colored. The total number of admissions to sick report was 1,077. Of this number 416 were treated in quarters, 646 in hospital, and 15 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 10, in hospital 21, total 31; from disease 24, injury 7.

The discharges for disability numbered, from quarters 10, hospital 15, total 25; for disease 25, injury 0. The deaths numbered, in quarters 8, hospital 3, total 11; from disease 4, injury 7.

The admission rate per 1,000 of mean strength was 892 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 535. The ratio of deaths per 1,000 of mean strength was 9.11, in the proportion of 2.48 in hospital, and 6.63 in quarters; 3.31 from disease, and 5.80 from injury. The ratio of discharges for disability was 20.71, in the proportion of 12.43 in hospital, and 8.28 in quarters; 20.71 from disease, and none from injury. The ratio of constant non-effectiveness on account of sickness was 25.72, in the proportion of 17.66 in hospital, 7.81 in quarters, and .25 in the field; 19.55 from disease, and 6.17 from injury.

The average duration of each case of sickness was, for those treated in hospital 12 days, in quarters 8 days, in the field 7 days; for disease 10 days, for injury 12 days; for all cases admitted 11 days; and the total loss of time on account of sickness averaged 9 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 9 days, for those who were discharged for disability 50 days, and for those who died 13 days. The ratio of recoveries per 1,000 of all admissions to sick report was 956, of discharges for disability 23, and of deaths 10.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region of the Northern Lakes during the year; the aggregate loss of time for each of the

classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	2,717	11.7	232	7	.....	6.17	192.21	5.80	.....
Venereal diseases	1,856	21.1	88	.....	6	4.21	72.91	.....	4.97
Diseases of the digestive system	841	5.5	152	.....	4	1.91	125.93	.....	3.31
Diseases of the respiratory system	770	7.3	106	1	3	1.75	87.82	.83	2.49
Diseases of the nervous system	728	13.7	53	.....	1	1.65	43.91	.....	.83
Diseases of the integumentary system	620	10.0	62	.....	.....	1.41	51.37	.....	.....
Malarial diseases	475	9.0	53	.....	.....	1.08	43.91	.....	.....
Diseases of the locomotor system	466	11.9	39	.....	1	1.06	32.31	.....	.83
Diseases of the circulatory system	462	46.2	10	2	3	1.05	8.29	1.66	2.49
Diseases of the eye	459	17.7	26	.....	2	1.04	21.54	.....	1.66
Specific febrile and acute infectious diseases	351	25.1	14	.....	.....	.80	11.60	.....	.....
Constitutional diseases	339	14.1	24	.....	2	.77	19.88	.....	1.66
Diarrhœal diseases	316	3.1	101	.....	.....	.72	83.68	.....	.....
Diseases of the genito-urinary system (non-venereal)	266	14.8	18	.....	.....	.60	14.91	.....	.....
Diseases of the lymphatic system	198	39.6	5	.....	.....	.45	4.14	.....	.....
Dietic diseases	133	2.8	48	.....	1	.30	39.77	.....	.83
Zoögenous diseases	113	5.4	21	.....	.....	.26	17.40	.....	.....
Septic diseases	72	24.0	3	1	.....	.16	2.49	.83	.....
Developmental diseases	36	12.0	3	.....	2	.08	2.49	.....	1.66
Parasitic diseases	30	4.3	7	.....	.....	.07	5.80	.....	.....
Diseases of the nose	9	4.5	2	.....	.....	.02	1.66	.....	.....
Diseases of the ear	9	9.0	1	.....	.....	.02	.83	.....	.....
Unclassified diseases	67	7.4	9	.....	.....	.15	7.46	.....	.....
Total	11,333	10.5	1,077	11	25	25.72	892.29	9.11	20.71

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 4.14 per 1,000 of mean strength; for *pneumonia* it was .83: for *pleuritis*, 1.66; for *bronchitis*, 52.20; for *catarrh and common colds*, 23.20: for *acute articular rheumatism*, 0: for *articular rheumatism* (*subacute and chronic*), 17.40; for *muscular rheumatism*, 29.83; for *cholera morbus*, 9.95; for *diarrhœa* (*acute and chronic*), 68.76; for *dysentery* (*acute and chronic*), 4.97; for *paroxysmal* (*malarial*) *fevers*, 43.91; for *typhoid fever*, 2.49.

Of the class of *specific febrile and acute infectious diseases*, 14 admissions to sick report, or a rate of 11.60 per 1,000 of mean strength, were reported for the region during the year; of this number 4 cases, or a rate of 19.32 per 1,000 of mean strength, occurred among the colored troops.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Northern Lakes during the year comprised the months of January and February. The constant non-effective rate for this period was 30.83 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, venereal diseases, injuries, rheumatism, tonsillitis, catarrh, and bronchitis.

August showed a greater number of admissions to sick report than any other month of the year, its rate being 101.33 per 1,000 of mean strength; but the number constantly non-effective from sickness was greater in January, the ratio per 1,000 of mean strength being 31.85. The greatest number of deaths in any one month was 4, reported for September.

The period of *least sickness* appears to have been during the months of April, May, and June, the constant non-effective rate for this period being 23.50 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded, it is found that the period of greatest sickness covered the months of July and August, and the prevailing causes of disability were diarrhœal diseases, malarial fevers, diseases of the eye, boils and abscesses, neuralgia and other disorders of the nervous system. The constant non-effective rate for this period was 18.21 per 1,000 of mean strength, that for the whole year being 15.04.

Excluding injuries, venereal diseases and alcoholism, the period of least sickness comprised the months of November and December, the constant non-effective rate being 12.62 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Fort Brady, Mich.*, furnished the highest admission rate for the year, 1,500 per 1,000 of mean strength; *Fort Wayne, Mich.*, the highest non-effective rate, 36.13 per 1,000; also the highest death-rate, 24.10. (*Fort Ontario, N. Y.*, furnished a higher death-rate, 24.39 per 1,000, but this is considered accidental, resulting from 1 death in a mean strength of 41 men).

COLORED TROOPS.—The mean strength of colored troops stationed in the region of the Northern Lakes was 207. Their admission rate for the year was lower than that of the white troops, being 574.88, as against 958.00 per 1,000 of mean strength for the latter. Their constant non-effective rate from sickness was also lower, being 19.27 against 27.06.

Excluding from the calculation, injuries, venereal diseases, and alcoholism, so as to estimate more accurately the effect of locality, it appears that the difference between the two races in respect of their rates of constant non-effectiveness on account of sickness becomes much less, that of the colored being 12.96 per 1,000 of mean strength, and of the white, 15.47. The period of *greatest sickness* among these troops (excluding the above diseases and injuries), occurred during the months of April and May, there being an average of 25.74 per 1,000 of mean strength constantly non-effective during those months.

In this region the greatest disparity between the two races is observed to exist in the rates of occurrence of the following diseases: Diarrhœal diseases and malarial fevers in favor of the colored troops, their rates for these diseases being 14.49 and 0.00, and those of the white troops, 98.00 and 53.00, per 1,000 of mean strength, respectively; in favor of the white troops, articular rheumatism, mumps, and pulmonary phthisis, their rates being 16.00, 1.00, 3.00, and those of the colored, 24.15, 14.49, and 9.66, per 1,000 of mean strength.

CIVILIANS WITH COMMAND.—With a mean strength of 1,207 officers and enlisted men serving in the region, there was constantly present during the year an average of 994 civilians. Of this number 143 were adult males,

426 adult females, and 425 children. The admissions to sick report numbered for the adult males 64, and the deaths 4; for the adult females 481, and the deaths 3; for the children 359, and the deaths 4; or an aggregate of 904 admissions and 11 deaths.

The period of *greatest sickness* among the civilian attachés covered the month of February, the prevailing diseases being those of the respiratory and nervous systems.

The *least sickness* was reported during the month of October.

Region of Central Timbered Plains and Hills.

Two or more subdivisions of this region might properly be made, but, as the number of garrisoned posts within its limits is small, it has not been thought advisable to arrange them in groups for purposes of comparison, as has been done in other regions.

Six military stations in this area were occupied by troops during the year; they range in elevation from 155 to 749 feet above the level of the sea.

The following table shows the stations in the region of Central Timbered Plains and Hills, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength, (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Columbus Bk's, Ohio	399	689	86	775	1,942.36	29.73	74.52	16	2
Newport Bk's, Ky.....	40	28	4	32	800.00	.97	24.32	1	.....
Indianapolis Ars'l, Ind.	27	49	6	55	2,037.04	1.50	55.41	1	.....
Jefferson B'ks, Mo.....	669	1,201	226	1,427	2,133.03	64.75	96.79	15	19
Little Rock B'ks, Ark ..	104	157	24	181	1,740.38	3.98	38.31	3	.....
Mount Vernon B'ks, Ala.....	70	60	15	75	1,071.43	2.57	36.71	2	2
Total.....	1,309	2,184	361	2,545	1,944.23	103.50	79.07	38	23

The force serving in this region during the year consisted of five batteries of artillery, one detachment of ordnance, and the unassigned recruits at the recruiting depots at Columbus Barracks, Ohio, and Jefferson Barracks, Mo.

The mean strength, including officers, was 1,309 men, of whom 1,172 were white, and 137 colored. The total number of admissions to sick report was 2,545; of this number, 1,099 were treated in quarters, and 1,446 in hospital. The number of men daily non-effective on account of sickness averaged, in quarters 24, in hospital 79, total 103; from disease 91, injury 12. The discharges for disability numbered, from quarters 5, hospital 33, total 38; for disease 35, for injury 3. The deaths numbered, in quarters 4, hospital 19, total 23; from disease 21, injury 2.

The admission rate per 1,000 of mean strength was 1,944 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 1,105. The ratio of deaths per 1,000 of mean strength was 17.57, in

the proportion of 14.51 in hospital, and 3.06 in quarters; 16.04 from disease, and 1.53 from injury; that of discharges for disability was 29.03, in the proportion of 25.21 from hospital, and 3.82 from quarters; 26.74 for disease, and 2.29 for injury. The ratio of constant non-effectiveness on account of sickness was 79.07, in the proportion of 60.37 in hospital, and 18.70 in quarters; 69.88 from disease, and 9.19 from injury.

The average duration of each case of sickness was, for those treated in hospital 20 days, in quarters 8 days; for disease 15.3 days, for injury 12.2 days: for all cases admitted 14.8 days; and the total loss of time on account of sickness averaged 29 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 14 days, for those who were discharged for disability 92 days, and for those who died 45 days. The ratio of recoveries per 1,000 of all admissions to sick report was 917, of discharges for disability 15, and of deaths 9.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region during the year: the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Malarial diseases	6,493	15.2	427	3	.....	13.59	326.20	2.29	.....
Venereal diseases	5,957	21.8	273	.....	12	12.47	208.55	.....	9.17
Injuries	4,392	12.2	361	2	3	9.19	275.78	1.53	2.29
Zoögenous diseases	3,822	15.9	240	.....	.....	8.00	183.35	.....	.....
Diseases of the respiratory system	2,373	17.4	136	7	4	4.97	103.90	5.35	3.06
Diarrhœal diseases	2,292	7.7	298	.....	1	4.80	227.65	.....	.76
Diseases of the digestive system	2,080	8.8	237	2	.....	4.35	181.05	1.53	.....
Specific febrile and acute infectious diseases	1,878	31.3	60	4	.....	3.93	45.84	3.06	.....
Diseases of the nervous system	1,535	17.1	90	1	5	3.21	68.75	.76	3.82
Diseases of the integumentary system	1,528	10.1	151	.....	1	3.20	115.36	.....	.76
Diseases of the locomotor system	1,468	21.6	68	.....	3	3.07	51.95	.....	2.29
Constitutional diseases	1,267	31.7	40	1	5	2.65	30.56	.76	3.82
Diseases of the eye	850	18.1	47	.....	.....	1.78	35.91	.....	.....
Diseases of the genito-urinary system (non-venereal)	585	17.2	34	1	2	1.22	25.97	.76	1.53
Diseases of the lymphatic system	446	55.7	8	.....	.....	.93	6.11	.....	.....
Diseases of the circulatory system	245	49.0	5	1	.....	.51	3.82	.76	.....
Diseases of the ear	132	11.0	12	.....	.....	.28	9.17	.....	.....
Parasitic diseases	113	8.1	14	.....	.....	.24	10.70	.....	.....
Dietic diseases	96	4.6	21	.....	.....	.20	16.04	.....	.....
Developmental diseases	69	69.0	1	1	1	.14	.76	.76	.76
Septic diseases	67	11.2	6	.....	.....	.14	4.58	.....	.....
Diseases of the nose	11	11.0	1	.....	.....	.02	.76	.....	.....
Unclassified diseases	80	5.3	15	.....	1	.17	11.46	.....	.76
Total	37,779	14.8	2,545	23	38	79.07	1,944.23	17.57	29.03

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 5.35 per 1,000 of mean strength: for *pneumonia* it was 17.57: for *pleuritis*, 3.82: for *bronchitis*, 58.82: for *catarrh and common colds*, 16.04: for *acute articular rheumatism*, 12.99; for *articular rheumatism (subacute and chronic)*, 15.28: for *muscular rheumatism*, 48.13: for *cholera morbus*, 16.04: for *diarrhœa (acute and chronic)*, 207.79; for *dysentery (acute and chronic)*, 3.82: for *paroxysmal (malarial) fevers*, 326.20; for *typhoid fever*, 7.64.

Of the class of *specific febrile and acute infectious diseases*, 60 admissions to sick report, or a rate of 45.84 per 1,000 of mean strength, were reported for the region during the year: of this number, 12 cases, or a rate of 87.59 per 1,000 of mean strength, occurred among the colored troops.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of Central Timbered Plains and Hills during the year comprised the months of February, March, and April. During this period the number constantly non-effective on account of sickness averaged 94.28 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, malarial fevers, venereal diseases, vaccina, diarrhœal diseases, and injuries.

December showed a greater number of admissions to sick report than any other month of the year, the ratio per 1,000 of mean strength being 195.97. The number constantly non-effective on account of sickness was greatest in April, the ratio being 98.34 per 1,000 of mean strength.

The period of *least sickness* appears to have been during the months of October and November, the constant non-effective rate being 62.12 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that, while the period of greatest sickness remains unchanged, the prevailing causes of sickness were malarial fevers, vaccina, diarrhœa, and rheumatism, in the order of their relative importance, and that the constant non-effective rate was 72.48, that for the year being 57.21.

Excluding injuries, venereal diseases, and alcoholism, the period of least sickness also remains unchanged, but the rate of constant non-effectiveness was 44.99 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Jefferson Barracks, Mo.*, furnished the highest admission rate for the year, 2,133.03 per 1,000 of mean strength; also, the highest constant non-effective rate, 96.79 per 1,000. The highest death-rates were those of *Mt. Vernon Barracks, Ala.*, and *Jefferson Barracks, Mo.*, 28.57 and 28.40, per 1,000 of mean strength. This excessive rate may have been accidental at the former station, where but 2 deaths furnished the basis for the calculation, but not at the latter, where 19 deaths occurred during the year.

COLORED TROOPS.—The mean strength of colored troops serving in the region was 137. Both the admission rate and the constant non-effective rate were higher for the colored than for the white troops; for the former they were respectively 2,357.66 and 104.57, and for the latter 1,895.90 and 76.09, per 1,000 of mean strength. Excluding from the calculation inju-

ries, venereal diseases, and alcoholism, the difference between the admission rates of the two races becomes greater, that of the colored troops being 1,875.91, against 1,393.34 for the white. Less difference existed between the constant non-effective rates, that of the former being 79.69, and for the latter, 54.58.

During the months of April, May, and June (exclusive of injuries, venereal diseases, and alcoholism), the average monthly admission rate was much greater for the colored troops than for the white, being 204.11 per 1,000 of mean strength for the former, and 118.98 for the latter. The diseases, in the rates of occurrence of which the greatest disproportion between the two races is observed to exist, are bronchitis, which caused for the year an admission rate of 131.39 for the colored soldier, and 50.34 for the white; measles, 58.39 for the former, and 29.86 for the latter; pneumonia and tonsillitis, 29.20 and 116.79 respectively for the colored, and 16.21 and 79.35 for the white.

During the months of March, April, and May occurred the period of greatest sickness among the colored troops, their monthly admission rate for diarrhœa alone averaging 43.58 per 1,000 of mean strength, while that of the white troops was 11.30.

December gave the highest admission rate, 246.27 per 1,000 of mean strength, injuries, venereal diseases, and alcoholism excluded.

CIVILIANS WITH COMMAND.—With a mean strength of 1,309 officers and enlisted men serving in the region, there was constantly present during the year an average of 426 civilians. Of this number, 41 were adult males, 191 adult females, and 194 children. The admissions to sick report numbered for the adult males 11, and the deaths 3; for the adult females 114, and the deaths 1; for the children 184, and the deaths 4; or an aggregate of 309 admissions and 8 deaths.

The period of *greatest sickness* among civilian attachés covered the month of December, the prevailing diseases being those of the respiratory system.

The *least sickness* was reported during the month of September.

REGION OF THE GULF COAST.

The stations in this region occupied by troops during the year were 4 in number, ranging in elevation from 10 to 52 feet above the level of the sea.

The following table shows the stations in the region, with mean strength of command, ratios of admissions to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Barrancas, Fla	81	72	12	84	1,037.04	2.76	34.06	3	.....
Jackson Barracks, La	78	62	7	69	884.62	1.49	19.08	.....	1
New Orleans, La	8	3	.....	3	375.00	.45	55.87	.....	.....
Fort Brown, Tex	132	165	44	209	1,583.33	10.16	76.94	16	1
Field	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	300	302	63	365	1,216.67	14.85	49.50	19	2

The force serving in this region during the year consisted of 4 batteries of artillery, 2 troops of cavalry, and 1 company of infantry.

The mean strength, including officers, was 300 men. The total number of admissions to sick report was 365; of this number 136 cases were treated in quarters, and 229 in hospital. The number of men daily non-effective on account of sickness averaged, in quarters 4, in hospital 11, total 15; from disease 13, injury 2. The discharges for disability numbered, from quarters 2, hospital 17, total 19; for disease 18, injury 1. There were 2 deaths, both from disease, and both of patients treated in hospital.

The admission rate per 1,000 of mean strength was 1,217 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 763. The ratio of deaths per 1,000 of mean strength was 6.67, all in hospital; that of discharges for disability was 63.33, in the proportion of 56.66 from hospital, and 6.67 from quarters: 60.00 for disease, and 3.33 for injury. The ratio of constant non-effectiveness on account of sickness was 49.59, in the proportion of 36.88 in hospital, and 12.62 in quarters: 42.74 from disease, and 6.76 from injury.

The average duration of each case of sickness was, for those treated in hospital 18 days, in quarters 10 days; for disease 15.5 days, and for injury 11.7 days; for all cases admitted 14.8 days. The total loss of time on account of sickness averaged 18 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 12 days, for those who were discharged for disability 99 days, and for those who died 20 days. The ratio of recoveries per 1,000 of all admissions to sick report was 942, of discharges for disability 52, and of deaths 5.

The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the region of the Gulf Coast during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Venereal diseases	1,828	44.6	41	.....	11	16.69	136.67	.....	36.67
Injuries	749	11.7	63	.....	1	6.76	210.00	.....	3.33
Malarial diseases	492	8.1	61	1	.....	4.49	203.33	3.33	.....
Diseases of the circulatory system	295	295.0	1	.....	1	2.69	3.33	.....	3.33
Diseases of the integumentary system	285	7.5	38	.....	.....	2.60	126.67	.....	.....
Constitutional diseases	267	17.8	15	.....	1	2.44	50.00	.....	3.33
Diseases of the digestive system	255	8.0	32	.....	2	2.33	106.67	.....	6.67
Diseases of the respiratory system	222	11.1	20	.....	2	2.03	66.67	.....	6.67

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. (days).	Average for each case. (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diarrhœal diseases	203	8.8	23			1.85	76.67		
Diseases of the eye	146	36.5	4		1	1.33	13.33		3.33
Diseases of the locomotor system	128	14.2	9			1.17	30.00		
Diseases of the genito-urinary system (non-venereal)	121	30.2	4			1.11	13.33		
Diseases of the lymphatic system	110	27.5	4			1.00	13.33		
Diseases of the nervous system	103	5.4	19			.94	63.33		
Dietic diseases	55	2.9	19	1		.50	63.33	3.33	
Specific febrile and acute infectious diseases	14	14.0	1			.13	3.33		
Zoögenous diseases	6	3.0	2			.05	6.67		
Unclassified diseases	150	16.7	9			1.37	30.00		
Total	5,420	14.8	365	2	19	49.50	1,216.67	6.67	63.33

Special diseases.—For *pulmonary phthisis* the admission rate was 10.00 per 1,000 of mean strength; for *pleuritis* it was 3.33; for *bronchitis*, 13.33; for *catarrh and common colds*, 40.00; for *articular rheumatism (subacute and chronic)*, 50.00; for *muscular rheumatism*, 26.67; for *cholera morbus*, 3.33; for *diarrhœa*, 60.00; for *dysentery*, 13.33; for *paroxysmal (malarial) fevers*, 203.33. No cases of *pneumonia, acute articular rheumatism*, or *typhoid fever* were reported.

Of the class of *specific febrile and acute infectious diseases*, only 1 admission to sick report, or a rate of 3.33 per 1,000 of mean strength, was reported during the year.

Periods of sickness among troops.—Counting all cases of disease and injury, the period of *greatest sickness* among troops serving in the region of the Gulf Coast during the year comprised the months of September and October, when the constant non-effective rate was 64.44. The principal causes of this non-effectiveness were, in the order of their relative importance, syphilis, malarial fever, conjunctivitis, and pulmonary phthisis. The rate of constant non-effectiveness for the year was 49.50 per 1,000 of mean strength.

November showed a greater number of admissions to sick report than any other month of the year, the ratio per 1,000 of mean strength being 137.20; but the number constantly non-effective on account of sickness was greatest in September, the ratio per 1,000 of mean strength being 74.56.

The period of *least sickness* appears to have been during the months of April and May, the constant non-effective rate being 40.01 per 1,000 of mean strength.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that, while the period of greatest sickness remains unchanged, the prevailing causes of sickness were malarial fevers, conjunctivitis, pulmonary phthisis, and muscular rheumatism, in the order of their relative importance, and that the constant non-effective rate was 43.81, that for the year being 32.80, per 1,000 of mean strength.

According to this calculation the period of least sickness comprised the months of January, February, and March, the constant non-effective rate for this period being 16.31 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—*Fort Brown, Tex.*, furnished the highest admission rate for the year, 1,583.33 per 1,000 of mean strength, also the highest constant non-effective rate, 76.94 per 1,000; *Jackson Barracks, La.*, the highest death-rate, 12.82 per 1,000 of mean strength.

No colored troops were stationed in this region during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 300 officers and enlisted men serving in the region, there was constantly present during the year an average of 257 civilians. Of this number 39 were adult males, 80 adult females, and 138 children. The admissions to sick report numbered for the adult males 8, and the deaths 1; for the adult females 35, and the deaths 1; and for the children 47, and the deaths 2; or an aggregate of 90 admissions and 4 deaths.

The period of *greatest sickness* among the civilian attachés covered the month of May, the prevailing diseases being those of the digestive system and measles.

The *least sickness* was reported during the month of July.

REGION OF THE PRAIRIES.

Of the 22 military stations within the limits of this region, none has an altitude of over 2,000 feet; 16 are between 1,000 and 2,000, and 6 between 500 and 1,000 feet, above the level of the sea.

For purposes of comparison the posts in the region have been divided into three groups—the northern, middle, and southern.

The following table shows the stations in the region of the Prairies, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Northern group:									
Fort Pembina, Dak.	84	125	42	167	1,988.10	4.16	49.55	4	.....
Fort Totten, Dak....	124	83	30	113	911.29	2.66	21.48	5	1
Fort Sisseton, Dak..	98	67	27	94	959.18	3.20	32.62	.....	2
Fort Buford, Dak....	278	189	71	260	935.25	11.73	42.18	7	1
Fort A. Lincoln, Dak.....	113	86	28	114	1,008.85	3.84	33.99	4	1
Fort Yates, Dak.....	269	228	77	305	1,133.83	10.17	37.81	6	1
Fort Bennett, Dak...	46	31	8	39	847.83	1.55	33.65	.....	.....
Fort Sully, Dak.....	166	163	48	211	1,271.08	5.88	35.43	1	.....
Fort Randall, Dak..	169	152	61	213	1,260.36	8.50	50.27	2	.....
In the field.....	2	.....	1	1	500.00	.01	7.00	.....	.....
Total.....	1,349	1,124	393	1,517	1,124.54	51.70	38.32	29	6
Middle group:									
Rock Island Arsenal, Ill	58	88	8	96	1,655.17	1.41	24.33	.....	.....
Fort Omaha, Nebr..	411	657	107	764	1,858.88	29.76	72.42	15	2
Omaha City (headquarters Department of the Platte), Nebr.....	31	6	1	7	225.81	.63	20.23	.....	.....
Fort Leavenworth (post), Kans.....	600	560	126	686	1,143.33	24.15	40.25	13	3

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Leavenworth prison guards, Kans	109	77	3	80	733.94	2.04	18.70	.....	.....
Leavenworth City, Kans	7	3	.....	3	428.57	.08	11.00	.....	.....
Fort Leavenworth headquarters Department of Missouri, Kans	24	3	.....	3	125.00	.02	.92	1	.....
Fort Riley, Kans	321	377	62	439	1,367.60	14.15	44.07	10	2
Fort Gibson, Ind. T	87	128	26	154	1,770.11	5.58	64.11	4	2
Fort Sill, Ind. T	282	403	89	492	1,744.68	18.56	65.82	11	4
In the field	119	150	35	185	1,554.62	2.65	22.31	.....	1
Total	2,049	2,452	457	2,909	1,419.72	99.04	48.33	54	14
Southern group:									
Fort Concho, Tex	172	214	114	328	1,906.98	9.86	57.33	3	.....
San Antonio (post), Tex	375	488	101	589	1,570.67	19.35	51.59	18	2
San Antonio (headquarters Department Texas), Tex	30	23	.....	23	766.67	1.96	65.20	.....	.....
Camp Langtry, Tex	20	12	3	15	750.00	.26	13.15	.....	.....
In the field	50	42	12	54	1,080.00	.62	12.50	.....	.....
Total	647	779	230	1,009	1,559.51	32.05	49.54	21	2
Total for the region	4,045	4,355	1,080	5,435	1,343.63	182.79	45.19	104	22

The force serving in this region during the year consisted of portions of 6 regiments of cavalry, and of 15 regiments of infantry, together with two batteries of artillery. Detachments of Indian scouts were also in service, but they are not included in computing the mean strength of command, or any of the ratios given below, for reasons which are stated at length in the section of this report devoted to the consideration of the health of the whole Army.

The mean strength, including officers, was 4,045 men, of whom 3,724 were white, and 321 colored. The total number of admissions to sick report was 5,435; of this number 2,848 were treated in quarters, 2,347 in hospital, and 240 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 64, in hospital 116, and in the field 3, total 183; from disease 146, injury 37. The discharges for disability numbered, from quarters 25, hospital 79, total 104; for disease 94, injury 10. The deaths numbered, in quarters 8, hospital 13, in the field 1, total 22; from disease 14, injury 8.

The admission rate per 1,000 of mean strength was 1,344 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 580. The ratio of deaths per 1,000 of mean strength was 5.44, in the proportion of 3.21 in hospital, 1.98 in quarters, and .25 in the field: 3.46 from disease, and 1.98 from injury. The ratio of discharges for disability was 25.71, in the proportion of 19.53 from hospital, and 6.18 from quarters; 23.24 for disease, and 2.47 for injury. The constant non-effective rate was 45.19, in the proportion of 28.57 in hospital, 15.81 in quarters, and .81 in the field; 36.08 from disease, and 9.11 from injury.

The average duration of each case of sickness was, for those treated in hospital 18 days, in quarters 8 days, in the field 5 days; for disease 12 days, and for injury 12 days; for all cases admitted 12 days; and the total loss of time on account of sickness averaged 16 days for each soldier in the command.

The average duration of treatment for all patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 84 days, and for those who died 27 days. The ratio of recoveries per 1,000 of all admissions to sick report was 955, of discharges for disability 19, and deaths 4.

The admission rate per 1,000 of mean strength was highest in the southern group of posts, being 1,560; it was lowest in the northern group, 1,125; in the middle it was 1,420. The death-rate was lowest in the southern group, being 3.09 per 1,000 of mean strength, as against 6.83 in the middle and 4.45 in the northern. The number of deaths per 1,000 of all admissions to sick report was 1.98 in the southern, 3.95 in the northern, and 4.81 in the middle group. The death-rates for the previous year were 8, 12, and 14 per 1,000 of mean strength, respectively, for the northern, middle, and southern groups.

The constant non-effective rate was lowest in the northern group, being 38.32 per 1,000 of mean strength, as against 48.33 per 1,000 in the middle group, and 49.54 in the southern.

The ratio of discharges for disability per 1,000 of mean strength was highest in the southern group, being 32.46, against 21.50 in the northern, and 26.35 in the middle group, while the average duration of treatment prior to discharge was longest in the northern group, being 94 days, against 59 in the southern and 83 in the middle group. The average duration of treatment for patients who died was longest in the middle group, 33 days, and shortest in the southern, 10 days; it was 18 days in the northern group. For patients who recovered and returned to duty the duration of treatment was shortest, 9 days, in the northern group, while in both the middle and southern groups it averaged 11 days.

The following table shows for each group of posts in the region of the Prairies, and for the whole region, the number and classified causes of all admissions to sick report, deaths, and discharges occurring during the year: the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

NORTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. (days).	Average for each case. (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	4,427	11.3	393	2	4	8.99	291.33	1.48	2.97
Diseases of the locomotor system	1,883	17.8	106	.....	4	3.82	78.58	.....	2.97
Diseases of the integumentary system	1,630	14.2	115	.....	.....	3.31	85.25	.....	.....

Classified causes.	Time lost— Aggregate for all cases, (days).	Time lost— Average for each case, (days).	Number of— Admissions to sick report.	Number of— D'ths.	Number of— Discharges.	Ratios per 1,000 of mean strength of— Men constantly non-effective.	Ratios per 1,000 of mean strength of— Admissions to sick report.	Ratios per 1,000 of mean strength of— D'ths.	Ratios per 1,000 of mean strength of— Discharges.
Diseases of the respiratory system	1,563	9.2	169	2	3	3.17	125.28	1.48	2.22
Diseases of the nervous system	1,511	14.7	103	.....	3	3.07	76.35	.....	2.22
Diseases of the digestive system	1,486	7.1	208	.....	1	3.02	154.19	.....	.74
Venereal diseases	1,378	27.0	51	.....	4	2.80	37.81	.....	2.97
Diseases of the eye	1,091	47.4	23	.....	2	2.22	17.05	.....	1.48
Diseases of the genito-urinary system (non-venereal)	938	34.7	27	1	4	1.91	20.01	.74	2.97
Constitutional diseases	771	33.5	23	.....	.....	1.57	17.05	.....	.....
Diarrhœal diseases	538	4.1	130	.....	.....	1.09	96.37	.....	.....
Malarial diseases	400	9.3	43	.....	.....	.81	31.88	.....	.....
Diseases of the circulatory system	269	44.8	6	1	2	.55	4.45	.74	1.48
Diseases of the ear	222	22.2	10	.....	1	.45	7.41	.....	.74
Dietic diseases	204	3.4	60	.....	.....	.41	44.48	.....	.....
Diseases of the lymphatic system	185	26.4	7	.....	.....	.38	5.19	.....	.....
Zoögenous diseases	55	9.2	6	.....	.....	.11	4.45	.....	.....
Typho-malarial fever	52	52.0	1	.....	.....	.11	.74	.....	.....
Specific febrile and acute infectious diseases	29	9.7	3	.....	.....	.06	2.22	.....	.....
Diseases of the nose	21	4.2	5	.....	.....	.04	3.71	.....	.....
Septic diseases	14	14.0	1	.....	.....	.03	.74	.....	.....
Parasitic diseases	4	2.0	2	.....	.....	.01	1.48	.....	.....
Developmental diseases	.....	.....	.....	.....	1	.....	.....	.....	.74
Unclassified diseases	199	8.0	25	.....	.....	.40	18.53	.....	.....
Total	18,870	12.4	1,517	6	29	38.32	1,124.54	4.45	21.50

MIDDLE GROUP.

Classified causes.	Time lost— Aggregate for all cases. (days).	Time lost— Average for each case, (days).	Number of— Admissions to sick report.	Number of— D'ths,	Number of— Discharges.	Ratios per 1,000 of mean strength of— Men constantly non-effective.	Ratios per 1,000 of mean strength of— Admissions to sick report.	Ratios per 1,000 of mean strength of— D'ths.	Ratios per 1,000 of mean strength of— Discharges.
Injuries	6,419	14.0	457	5	4	8.58	223.04	2.44	1.95
Venereal diseases	5,535	33.5	165	.....	10	7.40	80.53	.....	4.88
Malarial diseases	3,555	8.5	417	1	.....	4.75	203.51	.49	.....
Constitutional diseases	2,917	25.8	113	.....	5	3.90	55.15	.....	2.44
Diarrhœal diseases	2,695	6.3	429	1	.....	3.60	209.37	.49	.....
Diseases of the digestive system	2,399	7.7	312	.....	3	3.21	152.27	.....	1.46
Diseases of the respiratory system	2,326	8.6	271	3	3	3.11	132.26	1.46	1.46
Diseases of the integumentary system	1,788	10.0	178	.....	.....	2.39	86.87	.....	.....
Diseases of the nervous system	1,399	9.1	153	.....	9	1.87	74.67	.....	4.39
Specific febrile and acute infectious diseases	1,223	25.4	49	1	.....	1.64	23.91	.49	.....
Diseases of the genito-urinary system (non-venereal)	1,004	28.7	35	.....	4	1.34	17.08	.....	1.95
Diseases of the locomotor system	866	10.6	82	.....	5	1.16	40.02	.....	2.44
Diseases of the lymphatic system	807	32.3	25	.....	.....	1.08	12.20	.....	.....
Diseases of the circulatory system	747	43.9	17	.....	4	1.00	8.30	.....	1.95
Diseases of the eye	598	17.1	35	.....	.....	.78	17.08	.....	.....
Diseases of the ear	584	30.7	19	.....	2	.78	9.27	.....	.98
Typho-malarial fever	354	59.0	6	3	.....	.47	2.93	1.46	.....
Zoögenous diseases	272	8.5	32	.....	.....	.36	15.62	.....	.....

Classified causes.	Time lost— Aggregate for all cases, (days).	Time lost— Average for each case, (days).	Number of— Admissions to sick report.	Number of— D'ths.	Number of— Discharges.	Ratios per 1,000 of mean strength of— Men constantly non-effective.	Ratios per 1,000 of mean strength of— Admissions to sick report.	Ratios per 1,000 of mean strength of— D'ths.	Ratios per 1,000 of mean strength of— Discharges.
Dietic diseases	225	2.8	79	.....	.....	.30	38.56	.....	.....
Septic diseases	166	83.0	2	.....	1	.22	.98	.....	.49
Diseases of the nose	64	9.1	7	.....	1	.09	3.42	.....	.49
Parasitic diseases	11	2.7	4	.....	.....	.01	1.95	.....	.....
Developmental diseases	.....	.....	.....	.....	2	.....	.....	.....	.98
Unclassified diseases	194	8.8	22	.....	1	.26	10.74	.....	.49
Total	36,148	12.4	2,909	14	54	48.33	1,419.72	6.83	26.35

SOUTHERN GROUP.

Classified causes.	Time lost— Aggregate for all cases, (days).	Time lost— Average for each case, (days).	Number of— Admissions to sick report.	Number of— D'ths.	Number of— Discharges.	Ratios per 1,000 of mean strength of— Men constantly non-effective.	Ratios per 1,000 of mean strength of— Admissions to sick report.	Ratios per 1,000 of mean strength of— D'ths.	Ratios per 1,000 of mean strength of— Discharges.
Injuries	2,610	11.3	230	1	2	11.05	355.49	1.55	3.09
Venereal diseases	1,835	27.0	68	.....	3	7.77	105.10	.....	4.64
Malarial diseases	1,178	7.0	168	.....	1	4.99	259.66	.....	1.55
Diseases of the integumentary system	1,045	8.9	117	.....	1	4.43	180.83	.....	1.55
Constitutional diseases	854	24.4	35	.....	3	3.62	54.10	.....	4.64
Diseases of the digestive system	693	9.8	71	.....	.....	2.93	109.74	.....	.....
Diseases of the respiratory system	610	9.5	64	.....	.....	2.58	98.92	.....	.....
Diseases of the nervous system	416	11.9	35	.....	2	1.76	54.10	.....	3.09
Diseases of the locomotor system	414	25.9	16	.....	.....	1.75	24.73	.....	.....
Diseases of the circulatory system	408	29.1	14	1	6	1.73	21.64	1.55	9.27
Diarrhœal diseases	379	4.1	92	.....	.....	1.60	142.19	.....	.....
Diseases of the genito-urinary system (non-venereal)	372	24.8	15	.....	.....	1.58	23.18	.....	.....
Diseases of the eye	261	13.7	19	.....	2	1.11	29.37	.....	3.09
Specific febrile and acute infectious diseases	211	30.1	7	.....	.....	.89	10.82	.....	.....
Dietic diseases	100	3.3	30	.....	.....	.42	46.37	.....	.....
Diseases of the lymphatic system	95	31.7	3	.....	.....	.40	4.64	.....	.....
Diseases of the ear	81	10.1	8	.....	.....	.34	12.36	.....	.....
Septic diseases	78	19.5	4	.....	.....	.33	6.18	.....	.....
Zoögenous diseases	21	5.2	4	.....	.....	.09	6.18	.....	.....
Parasitic diseases	15	3.7	4	.....	.....	.06	6.18	.....	.....
Diseases of the nose	9	9.0	1	.....	.....	.04	1.55	.....	.....
Developmental diseases	.....	.....	.....	.....	1	.....	.....	.....	1.55
Unclassified diseases	14	3.5	4	.....	.....	.06	6.18	.....	.....
Total	11,699	11.6	1,009	2	21	49.54	1,559.51	3.09	32.46

TOTAL FOR THE REGION.

Classified causes.	Time lost— Aggregate for all cases, (days).	Time lost— Average for each case, (days).	Number of— Admissions to sick report.	Number of— D'ths.	Number of— Discharges.	Ratios per 1,000 of mean strength of— Men constantly non-effective.	Ratios per 1,000 of mean strength of— Admissions to sick report.	Ratios per 1,000 of mean strength of— D'ths.	Ratios per 1,000 of mean strength of— Discharges.
Injuries	13,456	12.5	1,080	8	10	9.11	267.00	1.98	2.47
Venereal diseases	8,748	30.8	284	.....	17	5.93	70.21	.....	4.20
Malarial diseases	5,133	8.2	628	1	1	3.48	155.25	.25	.25

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the digestive system	4,578	7.7	591	.....	4	3.10	146.10	.....	.99
Constitutional diseases	4,542	26.6	171	.....	8	3.08	42.27	.....	1.98
Diseases of the respiratory system	4,499	8.9	504	5	6	3.05	124.59	1.24	1.48
Diseases of the integumentary system	4,463	10.9	410	.....	1	3.02	101.36	.....	.25
Diarrhœal diseases	3,612	5.5	651	1	.....	2.45	160.92	.25	.....
Diseases of the nervous system	3,326	11.4	291	.....	14	2.25	71.94	.....	3.46
Diseases of the locomotor system	3,163	15.5	204	.....	9	2.14	50.43	.....	2.22
Diseases of the genito-urinary system (non-venereal)	2,314	41.1	77	1	8	1.57	19.03	.25	1.98
Diseases of the eye	1,950	25.3	77	.....	4	1.32	19.03	.....	.99
Specific febrile and acute infectious diseases	1,463	24.8	59	1	.....	.99	14.59	.25	.....
Diseases of the circulatory system	1,424	38.5	37	2	12	.96	9.15	.49	2.97
Diseases of the lymphatic system	1,087	31.0	35	.....	.....	.74	8.65	.....	.....
Diseases of the ear	887	23.9	37	.....	3	.60	9.15	.....	.74
Dietic diseases	529	3.1	169	.....	.....	.36	41.78	.....	.....
Typho-malarial fever	406	58.0	7	3	.....	.27	1.73	.74	.....
Zoögenous diseases	348	8.3	42	.....	.....	.24	10.38	.....	.....
Septic diseases	258	39.9	7	.....	1	.18	1.73	.....	.25
Diseases of the nose	94	7.2	13	.....	1	.06	3.21	.....	.25
Parasitic diseases	30	3.0	10	.....	.....	.02	2.47	.....	.....
Developmental diseases	.....	.....	.....	.....	4	.....	.....	.....	.99
Unclassified diseases	407	8.0	51	.....	1	.28	12.61	.....	.25
Total	66,717	12.3	5,435	22	104	45.19	1,343.63	5.45	25.71

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 1.48 per 1,000 of mean strength in the northern group, .98 in the middle, and 3.09 in the southern; for *pneumonia* it was 4.45 in the northern, 4.39 in the middle, and 0 in the southern; for *pleuritis* it was .74 in the northern, 1.95 in the middle, and 7.73 in the southern; for *bronchitis* it was 80.06 in the northern, 68.81 in the middle, and 23.18 in the southern; for *catarrhs and common colds* it was 33.36 in the northern, 35.14 in the middle, and 57.19 in the southern; for *acute articular rheumatism* it was 1.48 in the northern, 1.46 in the middle, and 6.18 in the southern; for *articular rheumatism* (*subacute and chronic*) it was 11.12 in the northern, 51.24 in the middle, and 40.19 in the southern; for *muscular rheumatism* it was 71.91 in the northern, 35.63 in the middle, and 23.18 in the southern; for *cholera morbus* it was 4.45 in the northern, 9.76 in the middle, and 0 in the southern; for *diarrhœa* (*acute and chronic*) it was 90.43 in the northern, 184.48 in the middle, and 139.10 in the southern; for *dysentery* (*acute and chronic*) it was 1.48 in the northern, 15.13 in the middle, and 3.09 in the southern; for *paroxysmal* (*malarial*) *fevers* it was 31.88 in the northern, 203.51 in the middle, and 259.66 in the southern; for *typhoid fever* it was 0 in the northern, 6.34 in the middle, and 4.64 in the southern group.

Of the class of *specific febrile and acute infectious diseases*, 59 admissions to sick report, or a rate of 14.59 per 1,000 of mean strength, were reported in the region during the year; of this number the white troops furnished

50 admissions, or a rate of 13.43 per 1,000 of mean strength, and the colored 9, or 28.04 per 1,000. The admission rate for these diseases was 2.22 for the northern group, 23.91 for the middle, and 10.82 for the southern, per 1,000 of mean strength.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Prairies during the year comprised the months of January and February in the northern group; July, August, September, and October in the middle group; and October, November, and December in the southern group. During the period of greatest sickness in the northern group the number constantly non-effective averaged 43.08 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, injuries (principally contusions and sprains), rheumatism, venereal diseases, diseases of the eye (principally conjunctivitis), bronchitis, and pneumonia. In the middle group, during the period of greatest sickness, the daily non-effective rate was 52.12 per 1,000 of mean strength, and the principal causes were malarial fevers, venereal diseases (particularly syphilis), injuries (principally contusions and sprains), and diarrhœal diseases. In the southern group, during this period, the daily average of non-effectiveness was 66.78 per 1,000 of mean strength, and the prevailing causes were venereal diseases, injuries, malarial fever, rheumatism, and pulmonary phthisis.

August showed a greater number of admissions to sick report than any other month of the year in the northern group, July in the middle, and October in the southern, the rates per 1,000 of mean strength being 111.02, 157.39, and 174.33, respectively; but the number constantly non-effective on account of sickness was greatest in February in the northern group, in August in the middle, and October in the southern, the rates per 1,000 of mean strength being 43.14, 53.60, and 72.39.

The period of *least sickness* appears to have comprised the months of October and November in the northern group, and February and March in both the middle and southern groups, the constant non-effective rates being 33.47, 44.67, and 37.79.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded, it is found that, while the period of greatest sickness is practically the same in each of the three groups, the constant non-effective rate is greatly diminished.

In the northern group, excluding the cases above mentioned, the prevailing diseases during the period of greatest sickness were rheumatism (including muscular), diseases of the eye (principally conjunctivitis), bronchitis, and pneumonia; and the constant non-effective rate was 30.75 per 1,000 of mean strength, that for the year being 26.12. In the middle group the prevailing causes of sickness were malarial fever, diarrhœa, rheumatism, and typhoid fever; the constant non-effective rate was 36.05 per 1,000 of mean strength, that for the whole year being 32.05. In the southern group the prevailing causes of sickness were malarial fevers, rheumatism, pulmonary phthisis, and typhoid fever; and the constant non-effective rate was 42.04 per 1,000 of mean strength, that for the year being 30.29.

Excluding injuries, venereal diseases, and alcoholism, the period of least sickness comprised the months of June and July in the northern group, November and December in the middle, and April and May in the southern group, the constant non-effective rates of the three groups being, respectively, 20.76, 28.09, and 21.38 per 1,000 of mean strength.

Health of individual posts.—In the northern group *Fort Pembina* furnished the highest admission rate for the year, 1,988 per 1,000 of mean strength; *Fort Randall* the highest constant non-effective rate, 50.27 per 1,000, and *Fort Sisseton* the highest death-rate, 20.40 per 1,000.

In the middle group *Fort Omaha* furnished the highest admission rate, 1,858.88 per 1,000; also the highest constant non-effective rate, 72.42 per 1,000; *Fort Gibson* the highest death-rate, 22.99 per 1,000 of mean strength.

In the southern group *Fort Concho* gave the highest admission and constant non-effective rates per 1,000 of mean strength, 1,906.98 and 57.33, respectively; the *Post of San Antonio* the highest death-rate, 5.34 per 1,000.

Colored troops.—The mean strength of colored troops, serving in the region of the Prairies, was 321; 87 in the northern group, 233 in the middle, and only 1 in the southern.

In the northern group the admission rate of the colored troops, counting all cases of disease and injury, was 1,080.46 per 1,000 of mean strength, as against 1,127.58 per 1,000 for the white; their non-effective rate was also lower, being 25.72, as against 39.19 for the white troops.

In the middle group the colored troops gave admission and non-effective rates higher than those of the white, those for the former being 1,673.82 and 58.61 per 1,000 of mean strength, respectively, and for the latter 1,387.11 and 47.02.

Excluding from the calculation injuries, venereal diseases, and alcoholism, it appears that the non-effective rate of the colored troops in the northern group was but 15.02, and that of the white 26.89, per 1,000 of mean strength; in the middle group it was 36.55 for the colored, and 31.47 for the white troops.

In the northern group the diseases, in the rates of occurrence of which the greatest disproportion between the two races is observed, are pneumonia, pharyngitis and sore throat, and catarrhs and common colds, the colored soldier showing for these causes admission rates for the year of 22.99, 34.48, and 68.97 per 1,000 of mean strength, respectively, while those of the white soldier are only 3.17, 13.47, and 30.90.

In the middle group the disproportion in the rates of occurrence of pharyngitis and sore throat, and catarrhs and common colds, which was so marked in the northern group, is reversed, the rates of the colored troops being only 12.88 and 0, respectively, while they were 34.14 and 39.65 for the white. Malarial fevers were the principal causes of admission among the colored troops, their rate for this class of diseases being 424.89, considerably in excess of that of the white troops, which was 175.11 per 1,000 of mean strength.

Indian scouts.—The Indian scouts in this region gave a mean strength of only 7 for the year. No admissions to sick report, deaths, or discharges occurred among them during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 4,045 officers and enlisted men serving in the region, there was constantly present during the year an average of 2,837 civilians. Of this number 874 were adult males, 938 adult females, and 1,025 children. The admissions to sick report numbered for the adult males 398, and the deaths 9; for the adult females 804, and the deaths 3; for the children 736, and the deaths 18; or an aggregate of 1,938 admissions and 30 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of July in the northern group of posts, January in the middle group, and November in the southern group, the prevailing diseases being those of the digestive system in the northern group, diseases of the respiratory system and catarrhal diseases in the middle group, and malarial and catarrhal diseases in the southern group.

The *least sickness* was reported during the month of May in the northern group, and February in the middle and southern groups.

REGION OF THE GREAT PLAINS.

There are 28 military stations in this region, all of which, except those in the vicinity of the Rio Grande, have an elevation of over 2,000 feet. For purposes of comparison the posts have been divided into three groups, the northern, middle, and southern.

The following table shows the stations in the region, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Northern group:									
Fort Assinniboine, Mont	396	370	77	447	1,128.79	14.61	36.89	7	1
Camp Poplar river, Mont	97	138	45	183	1,886.60	4.44	45.81	3	.....
Fort Shaw, Mont	201	112	44	156	776.11	6.01	29.92	2	2
Fort Maginnis, Mont	111	71	41	112	1,009.01	3.43	30.93	3	2
Fort Keogh, Mont	364	305	126	431	1,184.07	10.82	29.71	10	1
Fort Custer, Mont	363	264	74	338	931.13	17.36	47.81	17	1
Fort Meade, Dak	462	695	199	894	1,935.06	24.65	53.36	23	1
Fort McKinney, Wyo	171	227	59	286	1,672.51	8.79	51.40	6	2
Field	96	41	15	56	583.33	1.08	11.22	1	.....
Total	2,261	2,223	680	2,903	1,283.94	91.19	40.33	72	10
Middle group:									
Fort Niobrara, Nebr	428	249	104	353	824.78	11.34	26.50	21	.....
Fort Robinson, Nebr	325	283	134	417	1,283.08	15.30	47.07	14	4
Fort Laramie, Wyo	187	136	29	165	882.35	6.10	32.60	5	2
Fort D. A. Russell, Wyo	418	333	67	400	956.94	17.23	41.21	8	4
Fort Sidney, Nebr	194	317	46	363	1,871.13	8.73	44.99	1	.....
Fort Hays, Kan	147	110	12	122	829.93	6.33	43.09	7	3
Fort Lyon, Colo	218	254	58	312	1,431.19	7.30	33.50	1	1
Fort Supply, Ind. T	265	201	77	278	1,049.06	9.66	36.46	2	1
Fort Reno, Ind. T	301	377	107	484	1,607.97	14.09	46.81	7	.....
Fort Elliot, Tex	191	125	44	169	884.82	5.68	29.73	2	3
Field	33	16	5	21	636.37	.54	16.36	1	1
Total	2,707	2,401	683	3,084	1,139.27	102.30	37.79	69	19

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Southern group:									
Fort Stanton, N. Mex.	204	75	38	113	553.92	8.06	39.50	4	2
Fort Bliss, Tex.	115	136	30	166	1,443.48	5.38	46.82	2	2
Fort Hancock, Tex.	63	59	18	77	1,222.22	2.08	33.00	1	2
Fort Davis, Tex.	279	248	54	302	1,082.44	9.57	34.30	4	3
Camp Pena Colorado, Tex.	59	48	21	69	1,169.49	2.90	49.08	2	
Camp Del Rio, Tex.	59	61	27	88	1,491.53	2.48	42.12	1	1
Fort Clark, Tex.	600	694	146	840	1,400.00	21.87	36.45	17	5
Fort McIntosh, Tex	151	216	43	259	1,715.23	8.82	58.38	1	3
Fort Ringgold, Tex.	133	111	27	138	1,037.59	6.70	50.38	5	2
Camp at Eagle Pass, Tex	56	34	12	46	821.43	2.10	37.57		
Field	20	24	3	27	1,350.00	.30	15.05		
Total	1,739	1,706	419	2,125	1,221.97	70.26	40.40	37	20
Total for the region	6,707	6,330	1,782	8,112	1,209.48	263.75	39.33	178	49

The force serving in this region during the year 1887 consisted of portions of 8 regiments of cavalry and 14 regiments of infantry, and a detachment of ordnance. There were also three companies of Indian scouts, but they are not included in computing the mean strength of the command, or any of the ratios given below.

The mean strength, including officers, was 6,707 men, of whom 5,859 were white, and 848 colored. The total number of admissions to sick report was 8,112; of this number 3,848 were treated in quarters, 4,160 in hospital, and 104 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 87, in hospital 175, in the field 2, total 264; from disease 197, injury 67. The discharges for disability numbered, from quarters 46, from hospital 130, from the field 1, total 177; for disease 156, injury 21. The deaths numbered, in quarters 16, in hospital 32, in the field 2, total 50; from disease 33, injury 17.

The admission rate per 1,000 of mean strength was 1,209 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 620. The ratio of deaths per 1,000 of mean strength was 7.45, in the proportion of 4.77 in hospital, 2.38 in quarters, and .30 in the field: 4.92 from disease, and 2.53 from injury. The ratio of discharges for disability was 26.39, in the proportion of 6.86 from quarters, 19.38 from hospital, .15 from the field; 23.26 for disease, and 3.13 for injury. The ratio of constant non-effectiveness on account of sickness was 39.33, in the proportion of 26.08 in hospital, 12.96 in quarters, and .29 in the field; 29.29 from disease, and 10.04 from injury.

The average duration of each case of sickness was, for those treated in quarters 8 days, in hospital 15 days, in the field 7 days, for all cases treated 12 days; for disease 11 days, injury 14 days; and the total loss of time on account of sickness averaged 14 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 10 days, for those who were discharged for disability 73 days, and for those who died 26 days. The ratio of recoveries per 1,000 of all admissions to sick report was 958, of discharges for disability 22, and of deaths 6.

The admission rate per 1,000 of mean strength was highest, 1,284, in the northern group of posts; it was lowest, 1,139, in the middle group; in the southern group it was 1,222. While the admission rate was highest in the northern group of posts, the death-rate of this group was decidedly the lowest of the region, being only 4.87 per 1,000 of mean strength, against 11.50 for the southern group, and 7.02 for the middle. The death-rate per 1,000 of admissions to sick report was only 3.79 in the northern, as against 9.41 in the southern, and 6.16 in the middle group. The death-rates for the previous year were 7, 10, and 8, per 1,000 of mean strength, respectively, for the northern, southern, and middle groups.

The constant non-effective rate was lowest in the middle group, being 38 per 1,000 of mean strength, as against 36 per 1,000 for the previous year: it was 40 per 1,000 in the northern and southern groups, against 44 and 49 respectively for the previous year.

The ratio of discharges for disability per 1,000 of mean strength was highest in the northern group, being 31.40, against 21.28 in the southern, and 25.49 in the middle group, while the average duration of treatment prior to discharge was longest in the southern group, being 82 days, against 62 in the middle, and 78 in the northern group. The average duration of treatment for patients who recovered and returned to duty was the same in each group, 10 days; that of patients who died was longest in the northern group, 31 days, and shortest in the southern, 21 days; it was 28 days in the middle group.

The following table shows for each group of posts in the region of the Great Plains, and for the whole region, the number and classified causes of all admissions to sick report, deaths, and discharges occurring during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

NORTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	9,853	14.5	680	4	11	11.94	300.75	1.77	4.87
Diseases of the respiratory system	3,798	10.6	359	4	13	4.60	158.78	1.77	5.75
Venereal diseases	3,763	25.1	150	.....	6	4.56	66.34	.....	2.65
Diseases of the digestive system	2,424	6.0	403	.....	4	2.94	178.24	.....	1.77
Constitutional diseases	2,259	23.1	98	1	14	2.74	43.34	.44	6.19
Diseases of the integumentary system	2,187	11.2	196	.....	.....	2.65	86.69	.....	.....

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the locomotor system	1,837	10.1	182	.....	4	2.23	80.49	.....	1.77
Diseases of the nervous system	1,383	7.0	197	.....	3	1.68	87.13	.....	1.33
Malarial diseases	948	14.1	67	.....	.....	1.15	29.63	.....	.....
Diseases of the genito-urinary system (non-venereal)	862	23.3	37	.....	6	1.04	16.36	.....	2.65
Diseases of the lymphatic system	785	35.7	22	.....	.....	.95	9.73	.....	.....
Diarrhœal diseases	750	3.3	228	.....	2	.91	100.84	.....	.88
Diseases of the eye	705	10.8	65	.....	2	.85	28.75	.....	.88
Diseases of the circulatory system	409	15.7	26	.....	2	.50	11.50	.....	.88
Dietic diseases	376	3.8	99	.....	.....	.46	43.79	.....	.....
Specific febrile and acute infectious diseases	220	14.7	15	1	.....	.27	6.63	.44	.....
Diseases of the ear	180	7.2	25	.....	2	.22	11.06	.....	.88
Septic diseases	176	44.0	4	1	.....	.21	1.77	.44	.....
Zoögenous diseases	99	8.2	12	.....	.....	.12	5.31	.....	.....
Developmental diseases	44	44.0	1	.....	2	.05	.44	.....	.88
Diseases of the nose	19	6.3	3	.....	.....	.02	1.33	.....	.....
Parasitic diseases	4	4.0	1	.....	.....	.01	.44	.....	.....
Unclassified diseases	203	6.2	33	.....	.....	.25	14.59	.....	.....
Total	33,284	11.5	2,903	11	71	40.33	1,283.94	4.87	31.40

MIDDLE GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	9,589	14.0	683	5	8	9.70	252.31	1.85	2.96
Diseases of the respiratory system	3,303	10.3	321	3	9	3.34	118.58	1.11	3.32
Constitutional diseases	3,282	22.5	146	1	10	3.32	53.93	.37	3.69
Diseases of the digestive system	2,551	6.6	384	2	4	2.58	141.85	.74	1.48
Specific febrile and acute infectious diseases	2,507	22.6	111	5	.....	2.54	41.00	1.85	.....
Venereal diseases	2,276	10.7	110	.....	5	2.30	40.64	.....	1.85
Malarial diseases	2,220	12.3	181	.....	.....	2.25	66.86	.....	.....
Diarrhœal diseases	1,972	5.8	341	1	1	2.00	125.97	.37	.37
Diseases of the nervous system	1,868	8.9	211	.....	11	1.89	77.95	.....	4.06
Diseases of the integumentary system	1,654	8.7	190	.....	1	1.67	70.19	.....	.37
Diseases of the eye	1,474	23.4	63	.....	3	1.49	23.27	.....	1.11
Diseases of the genito-urinary system (non-venereal)	1,294	38.1	34	.....	4	1.31	12.56	.....	1.48
Diseases of the locomotor system	1,050	10.6	99	.....	7	1.06	36.57	.....	2.59
Diseases of the circulatory system	616	34.2	18	1	5	.62	6.65	.37	1.85
Zoögenous diseases	372	12.4	30	.....	.....	.38	11.08	.....	.....
Dietic diseases	334	3.2	104	1	.....	.34	38.42	.37	.....
Diseases of the lymphatic system	241	24.1	10	.....	.....	.24	3.69	.....	.....
Parasitic diseases	85	10.6	8	.....	.....	.09	2.96	.....	.....
Diseases of the ear	69	6.9	10	.....	.....	.07	3.69	.....	.....
Typho-malarial fever	60	60.0	1	.....	.....	.06	.37	.....	.....
Septic diseases	36	12.0	3	.....	.....	.04	1.11	.....	.....
Developmental diseases	23	23.0	1	.....	1	.02	.37	.....	.37
Unclassified diseases	464	18.6	25	.....	.....	.47	9.23	.....	.....
Total	37,340	12.1	3,084	19	69	37.79	1,139.27	7.02	25.49

SOUTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	5,131	12.2	419	8	2	8.08	240.94	4.60	1.15
Venereal diseases	4,121	21.7	190	.....	6	6.49	109.26	.....	3.45
Malarial diseases	2,438	15.6	156	2	.....	3.84	89.71	1.15	.....
Diseases of the digestive system	1,934	7.2	269	3	1	3.05	154.69	1.73	.58
Diarrhœal diseases	1,752	7.5	234	.....	2	2.76	134.56	.....	1.15
Constitutional diseases	1,583	32.3	49	.....	2	2.49	28.18	.....	1.15
Diseases of the integumentary system	1,488	9.4	158	.....	.....	2.34	90.86	.....	.....
Diseases of the locomotor system	1,272	11.1	115	.....	3	2.00	66.13	.....	1.73
Diseases of the respiratory system	1,128	12.4	91	2	5	1.78	52.33	1.15	2.88
Diseases of the nervous system	1,007	13.1	77	2	5	1.59	44.28	1.15	2.88
Diseases of the genito-urinary system (non-venereal)	811	23.2	35	.....	1	1.28	20.13	.....	.58
Specific febrile and acute infectious diseases	642	30.6	21	.....	.....	1.01	12.08	.....	.....
Dietic diseases	501	4.0	126	1	1	.79	72.45	.58	.58
Diseases of the circulatory system	374	37.4	10	2	4	.59	5.75	1.15	2.30
Diseases of the lymphatic system	371	28.5	13	.....	.....	.58	7.48	.....	.....
Diseases of the eye	364	7.0	52	.....	2	.57	29.90	.....	1.15
Zoögenous diseases	164	7.1	23	.....	.....	.26	13.23	.....	.....
Diseases of the ear	128	9.1	14	.....	2	.20	8.05	.....	1.15
Parasitic diseases	108	6.4	17	.....	.....	.17	9.78	.....	.....
Developmental diseases	62	62.0	1	.....	1	.10	.58	.....	.58
Diseases of the nose	43	21.5	2	.....	.....	.07	1.15	.....	.....
Septic diseases	16	8.0	2	.....	.....	.03	1.15	.....	.....
Typho-malarial fever	*3	.....	.....	.....	.....	.01	.....	.....	.....
Unclassified diseases	205	2.1	51	.....	.....	.32	29.32	.....	.....
Total	25,646	12.1	2,125	20	37	40.40	1,221.97	11.50	21.28

*Case remaining from last year.

TOTAL FOR THE REGION.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	24,573	13.8	1,782	17	21	10.04	265.69	2.53	3.13
Venereal diseases	10,160	22.6	450	.....	17	4.15	67.09	.....	2.53
Diseases of the respiratory system	8,229	10.7	771	9	27	3.36	114.95	1.34	4.03
Constitutional diseases	7,124	24.3	293	2	26	2.91	43.69	.30	3.88
Diseases of the digestive system	6,909	6.5	1,056	5	9	2.82	157.45	.75	1.34
Malarial fevers	5,606	13.9	404	2	.....	2.29	60.24	.30	.....
Diseases of the integumentary system	5,329	9.8	544	.....	1	2.18	81.11	.....	.15
Diarrhœal diseases	4,474	5.6	803	1	5	1.83	119.73	.15	.75
Diseases of the nervous system	4,258	8.8	485	2	19	1.74	72.31	.30	2.83
Diseases of the locomotor system	4,159	10.5	396	.....	14	1.70	59.04	.....	2.09
Specific febrile and acute infectious diseases	3,369	22.9	147	6	.....	1.38	21.92	.89	.....
Diseases of the genito-urinary system (non-venereal)	2,967	28.0	106	.....	11	1.21	15.80	.....	1.64
Diseases of the eye	2,543	14.1	180	.....	7	1.04	26.84	.....	1.04

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases. (days).	Average for each case. (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the circulatory system	1,399	25.9	54	3	11	.57	8.05	.45	1.64
Diseases of the lymphatic system	1,397	31.0	45	.....	.....	.57	6.71	.....	.....
Dietic diseases	1,211	3.7	329	2	1	.50	49.05	.30	.15
Zoögenous diseases	635	9.8	65	.....	.....	.26	9.69	.....	.....
Diseases of the ear	377	7.7	49	.....	4	.15	7.31	.....	.60
Septic diseases	228	25.3	9	1	.....	.09	1.34	.15	.....
Parasitic diseases	197	7.6	26	.....	.....	.08	3.88	.....	.....
Developmental diseases	129	43.0	3	.....	4	.05	.45	.....	.60
Typho-malarial fever	63	63.0	1	.....	.....	.03	.15	.....	.....
Diseases of the nose	62	12.4	5	.....	.....	.03	.75	.....	.....
Unclassified diseases	872	8.0	109	.....	.....	.36	16.25	.....	.....
Total	96,270	11.9	8,112	50	177	39.33	1,209.48	7.45	26.39

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 5.31 per 1,000 of mean strength in the northern group, 2.59 in the middle, and 2.88 in the southern; for *pneumonia* it was 2.21 in the northern, 2.59 in the middle, and 1.73 in the southern; for *bronchitis* it was 85.36 in the northern, 86.07 in the middle, and 30.48 in the southern; for *catarrh and common colds* it was 58.38 in the northern, 19.58 in the middle, and 10.93 in the southern; for *acute articular rheumatism* it was 3.10 in the northern, 2.96 in the middle, and 6.90 in the southern; for *articular rheumatism* (*subacute and chronic*) it was 38.04 in the northern, 45.81 in the middle, and 16.10 in the southern; for *muscular rheumatism* it was 75.19 in the northern, 31.77 in the middle, and 57.50 in the southern; for *cholera morbus* it was 7.08 in the northern, 7.76 in the middle, and 4.03 in the southern; for *diarrhœa* (*acute and chronic*) it was 90.66 in the northern, 107.13 in the middle, and 110.40 in the southern; for *dysentery* (*acute and chronic*) it was 3.10 in the northern, 11.08 in the middle, and 20.13 in the southern; for *paroxysmal* (*malarial*) *fevers* it was 29.63 in the northern, 66.86 in the middle, and 89.71 in the southern; for *typhoid fever* it was .88 in the northern, 21.06 in the middle, and 5.18 in the southern.

Of the class of *specific febrile and acute infectious diseases*, 147 admissions to sick report, or a rate of 21.92 per 1,000 of mean strength, were reported in the region during the year; of this number the white troops furnished 115 admissions, or a rate of 19.63 per 1,000 of mean strength, and the colored 32, or 37.72 per 1,000. The admission rate for these diseases was 6.63 for the northern group, 41.00 for the middle, and 12.08 for the southern, per 1,000 of mean strength.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Great Plains during the year comprised the months of February and March in the northern group; January, February, March, and April in the middle group; and September, October, and November in the southern group. During the period of greatest sickness in the northern group the number constantly non-effective averaged 42.23 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in

the order of their relative importance, contusions and sprains, rheumatism, and venereal diseases. In the middle group, during the period of greatest sickness, the daily non-effective rate was 40.38 per 1,000 of mean strength, and the principal causes were rheumatism, contusions and sprains, and venereal diseases. In the southern group, during the period of greatest sickness, the daily average of non-effectiveness was 47.74 per 1,000 of mean strength, and the prevailing causes were venereal diseases, malarial fevers, and contusions and sprains.

September showed a greater number of admissions to sick report than any other month of the year in the northern group, July in the middle, and September in the southern, the rates per 1,000 of mean strength being 144.48, 116.08, and 120.88, respectively; but the number constantly non-effective on account of sickness was greatest in February in the northern group, in January in the middle group, and in October in the southern group, the rates per 1,000 of mean strength being 43.28, 41.68, and 49.68.

The greatest number of deaths occurred in November in the northern group, August in the middle, and November in the southern; they numbered, respectively, 5, 4, and 7.

The period of *least sickness* appears to have comprised the months of November and December in the northern and middle groups, and January, February, and March in the southern, the constant non-effective rates being 34.93, 34.73, and 32.61, respectively.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that the period of greatest sickness comprised the same months, February and March, in the northern group, and September and October in both the middle and southern groups. In the first group the prevailing diseases were rheumatism, bronchitis, and catarrh and common colds, and the constant non-effective rate was 27.46 per 1,000 of mean strength, that for the whole year being 23.41. In the second group the principal cause of sickness during the period mentioned was reported to be typhoid fever,* for which the constant non-effective rate was 8.61 per 1,000 of mean strength, or nearly 32 per cent. of the total non-effectiveness during the same period, which was 27.23 per 1,000 of mean strength, that for the year being 25.46. In the third group the prevailing causes of sickness were malarial fevers, abscesses and boils, diarrhœal diseases, and typhoid fever, and the constant non-effective rate was 28.91 per 1,000 of mean strength, that for the year being 25.07.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness comprised the months of October, November, and December in the northern group, November and December in the middle, and January, February, and March in the southern, the constant non-effective rates being, respectively, 14.84, 22.68, and 20.55 per 1,000 of mean strength.

HEALTH OF INDIVIDUAL POSTS.—In the northern group *Fort Meade* furnished the highest admission rate for the year, 1,935 per 1,000 of mean strength, also the highest constant non-effective rate, 53.36 per 1,000; *Fort Maginnis* the highest death-rate, 18.02 per 1,000.

*See typhoid fever at Fort Laramie, W. T., under special causes of admission to sick report for the whole Army.

In the middle group *Fort Sidney* reported the highest admission rate, 1,871 per 1,000, and *Fort Robinson* the highest constant non-effective rate, 47.07 per 1,000; *Fort Hays* the highest death-rate, 20.41 per 1,000.

In the southern group *Fort McIntosh* gave the highest admission rate, 1,715 per 1,000, as well as the highest constant non-effective rate, 58.38 per 1,000; but the highest death-rate, 31.75 per 1,000, occurred at *Fort Hancock, Fort McIntosh* furnishing the next highest, 19.87 per 1,000.

Colored troops.—The mean strength of colored troops serving in the region of the Great Plains was 848; 252 in the northern, and 596 in the middle group. There were no colored troops stationed in the southern group during the year.

In the middle group both the admission rate and the constant non-effective rate were lower for the colored than for the white troops, being, respectively, 1,102 and 27.60 for the former, and 1,150 and 40.67 for the latter, while in the northern group the reverse was the case, the colored troops furnishing an admission rate of 2,040, against 1,189 per 1,000 of mean strength for the white, and a constant non-effective rate of 51.60, against 38.92 per 1,000 for the white.

Excluding from the calculation injuries, venereal diseases, and alcoholism, the contrast between the two races is still more striking, the constant non-effective rate of the colored troops in the middle group being 14.19, or a little less than half that of the white troops, which was 28.64 per 1,000 of mean strength, while in the northern group the non-effective rate of the colored was much higher than that of the white troops, the rate of the former being 38.49, and that of the latter 21.52, per 1,000 of mean strength.

In the northern group, during the months of September, October, and November, the monthly admission rate of the colored troops, excluding the cases mentioned above, was nearly three times that of the white, the average being 161.69 per 1,000 of mean strength for the former, and 61.88 for the latter. In this group articular rheumatism (subacute and chronic) is the disease in the rates of occurrence of which the greatest disproportion between the two races is observed, the colored soldier showing an admission rate for the year of 158.73, or more than six times that of the white, which was 22.90; and for the months of April and May, the period of greatest sickness among the colored troops, their constant non-effective rate was 18.71 per 1,000 of mean strength for this disease alone, while for the white troops it was only 1.24.

Diseases of the respiratory system gave an admission rate of 396.83 per 1,000 of mean strength for the colored, and 128.92 for the white soldier. Tonsillitis caused a rate of 107.14 for the colored, and 32.35 for the white.

In the middle group, excluding injuries, venereal diseases, and alcoholism, the period of greatest sickness among the colored troops covered the month of December, the constant non-effective rate being 24.95 per 1,000 of mean strength, while that of the white troops for the same month was 22.51 per 1,000; it is worthy of mention that, with this exception, the colored troops in this group furnished lower rates of constant non-effectiveness during all other months.

Indian scouts.—The Indians in this region gave a mean strength of 102 for the year; 88 of this number were constantly in the middle group, 12 in

the southern, and 2 in the northern group. Among the whole number there were 34 admissions to sick report for all causes; 27 for disease, and 7 for injuries. No deaths were reported.

CIVILIANS WITH COMMAND.—With a mean strength of 6,707 officers and enlisted men serving in the region, there was constantly present during the year an average of 2,832 civilians. Of this number 585 were adult males, 1,059 adult females, and 1,188 children. The admissions to sick report numbered for the adult males 247, and the deaths 9; for the adult females 1,395, and the deaths 7; for the children 1,067, and the deaths 21; or an aggregate of 2,709 admissions and 37 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of April in the northern group, and August in the middle and southern groups; the prevailing diseases being catarrhs and rheumatism in the northern group, diseases of the digestive system and malarial diseases in the middle group, and diseases of the digestive and nervous systems in the southern group.

The *least sickness* was reported during the month of November in the northern and southern groups, and in June in the middle group.

REGION OF THE CORDILLERAS.

There are 35 military stations in this region, all of which, with the exception of a few in the extreme northern and southern portions, have an elevation of over 4,000 feet. For purposes of comparison they have been divided into three groups—the northern, middle, and southern.

The following table shows the stations in the region, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Northern group:									
Fort Spokane, Wash	247	192	56	248	1,004.05	13.09	53.01	8	
Fort Sherman, Idaho	252	190	70	260	1,031.75	9.35	37.12	11	2
Fort Missoula, Mont	166	243	59	302	1,819.28	8.19	49.31	8	1
Fort Walla Walla, Wash	287	228	87	315	1,097.56	8.32	28.98	8	5
Helena, Mont	1	3	.....	3	3,000.00	.20	203.00	.....	.....
Boise Barracks, Idaho	98	84	46	130	1,326.53	4.68	47.78	2	.....
Fort Washakie, Wyo	124	120	20	140	1,129.03	7.81	63.02	2	1
Camp Sheridan, Wyo	52	34	14	48	923.08	1.74	33.40	3	.....
In the field	17	.....	.....	.....	.....	.03	1.94	.....	.....
Total	1,244	1,094	352	1,446	1,162.37	53.42	42.94	42	12
Middle Group:									
Fort Klamath, Oreg.	47	27	3	30	638.30	1.08	22.97	5	.....
Fort Bidwell, Cal	117	75	23	98	837.61	2.62	22.36	3	.....
Fort McDermit, Nev	40	26	6	32	800.00	.78	19.52	1	.....

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Bridger, Wyo.	168	115	42	157	934.52	5.24	31.18	6	1
Fort Douglas, Utah.	375	420	88	508	1,354.67	16.50	43.99	13	2
Fort Du Chesne, Utah	223	167	57	224	1,004.48	6.67	29.92	14	2
Fort Crawford, Colo.	83	57	19	76	915.66	3.69	44.49	4	1
Fort Lewis, Colo.	295	234	66	300	1,016.95	11.46	38.86	6	4
Fort Union, N.Mex.	275	183	56	239	869.09	7.81	28.41	3	4
Fort Wingate, N. Mex.	325	370	93	463	1,424.62	9.92	30.51	13	.....
Fort Marcy, N.Mex.	80	81	22	103	1,287.50	2.25	28.12	3	3
Camp Medicine Butte, Wyo.	5	3	1	4	800.00	.12	24.66	.....	.....
Camp Pilot Butte, Wyo.	87	82	16	98	1,126.44	4.65	53.41	3	1
Camp near Denver, Colo	14	20	2	22	1,571.43	.36	26.03	.....	.....
In the field	21	24	6	30	1,428.57	.70	33.53	.....	.....
Total	2,155	1,884	500	2,384	1,106.26	73.85	34.27	74	18
Southern group:									
Fort Mojave, Ariz.	49	41	7	48	979.59	1.32	26.89	2	.....
Whipple Barracks, Ariz.	179	79	21	100	558.65	6.27	35.05	11	.....
Fort Verde, Ariz.	52	47	17	64	1,230.76	2.33	44.79	4	.....
Fort Apache, Ariz.	190	150	34	184	968.42	7.63	40.14	2	2
Fort McDowell, Ariz.	93	101	19	120	1,290.32	3.42	36.82	2	2
San Carlos, Ariz.	109	124	21	145	1,330.27	4.45	40.84	.....	4
Fort Thomas, Ariz.	154	226	41	267	1,733.77	1.15	74.54	2	2
Fort Bayard, N. Mex.	301	194	68	262	870.43	8.22	27.32	9	2
Fort Selden, N.Mex.	43	77	8	85	1,976.75	2.26	52.50	2	.....
Fort Grant, Ariz.	199	247	92	339	1,703.52	15.95	80.15	3	4
Fort Bowie, Ariz.	150	100	45	145	966.67	5.03	33.53	4	3
Fort Lowell, Ariz.	143	206	46	252	1,762.24	8.87	62.04	7	2
Fort Huachuca, Ariz.	253	270	69	339	1,339.92	12.98	51.31	10	2
In the field	48	19	6	25	520.83	.88	18.27	.....	1
Total	1,963	1,881	494	2,375	1,209.88	91.09	46.40	58	24
Total for the region	5,362	4,859	1,346	6,205	1,157.22	218.37	40.72	174	54

The force serving in this region during the year consisted of portions of 14 regiments of infantry and of 6 regiments of cavalry, together with 1 battery of artillery; there were also Indian scouts, but they are not included in computing the mean strength of the command, or any of the ratios given below.

The mean strength, including officers, was 5,362, of whom 4,654 were white and 708 colored. The total number of admissions to sick report was 6,205; of this number 3,351 were treated in quarters, 2,799 in hospital, and 55 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 75, in hospital 141, in the field 2, total 218; from disease 169, injury 49. The discharges for disability numbered, from quarters 55, from hospital 119, total 174; for disease 155, for injury 19. The deaths numbered, in quarters 23, in hospital 30, and in the field 1, total 54; from disease 37, injury 17.

The admission rate per 1,000 of mean strength was 1,157 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate

was 522. The ratio of deaths per 1,000 of mean strength was 10.07, in the proportion of 5.59 in hospital, 4.29 in quarters, and .19 in the field: 6.90 from disease and 3.17 from injury. The ratio of discharges for disability was 32.45, in the proportion of 10.26 from quarters, and 22.19 from hospital; for disease 28.91, and for injury 3.54. The ratio of constant non-effectiveness on account of sickness was 40.72, in the proportion of 26.36 in hospital, 14.06 in quarters, and .30 in the field: 31.55 from disease, and 9.17 from injury.

The average duration of each case of sickness was, for those treated in quarters 8 days, in hospital 18 days, in the field 11 days, for all cases treated 13 days; for disease and injury, each 13 days. The total loss of time on account of sickness averaged 15 days for each soldier in the command.

The average duration of treatment for patients who recovered and were returned to duty was 11 days, for those who were discharged for disability 71 days, and for those who died 20 days. The ratio of recoveries per 1,000 of all admissions to sick report was 952, of discharges for disability 28, and of deaths 9.

The admission rate per 1,000 of mean strength was highest, 1,210, in the southern group of posts; it was lowest, 1,106, in the middle group; in the northern group it was 1,162.

The death-rate was also highest in the southern group, being 12.23 per 1,000 of mean strength, and lowest in the middle, 8.35 per 1,000; for the northern it was 9.65. The death-rate per 1,000 of admissions to sick report was, for the northern group 8.30, for the middle 7.55, and for the southern 10.10. The death-rates for the previous year were 4, 7, and 13 per 1,000 of mean strength, respectively, for the northern, middle, and southern groups.

The constant non-effective rate was lowest in the middle group, being 34.27 per 1,000 of mean strength, and highest in the southern, 46.40; it was 42.94 per 1,000 in the northern group. For the previous year it was 32 in the northern group, and 36 per 1,000 in both the middle and southern.

The ratio of discharges for disability per 1,000 of mean strength was highest in the middle group, being 34.34, as against 33.77 in the northern and 29.55 in the southern; while the average duration of treatment prior to discharge was longest in the northern group, being 90 days, against 54 in the middle, and 81 in the southern group. The average duration of treatment for patients who recovered and returned to duty was longest, 12 days, in the southern group, and shortest, 9 days, in the middle: it was 11 days in the northern: that of patients who died was longest in the northern group, 31 days, and shortest in the southern group, 12 days: it was 23 days in the middle group.

The following table shows for each group of posts in the region of the Cordilleras, and for the whole region, the number and classified causes of all admissions to sick report, deaths, and discharges occurring during the year: the aggregate loss of time for each of the classified causes: the average loss of time for each admission: and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

NORTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	5,010	14.2	352	7	4	11.03	282.96	5.63	3.22
Diseases of the respiratory system	2,447	14.7	167	.....	6	5.39	134.24	.....	4.82
Venereal diseases	1,794	28.5	63	.....	3	3.95	50.64	.....	2.41
Constitutional diseases	1,777	21.4	83	1	6	3.91	66.72	.80	4.82
Diseases of the digestive system	1,501	8.9	169	.....	4	3.31	135.85	.....	3.22
Diseases of the integumentary system	1,058	13.4	79	.....	.....	2.33	63.50	.....	.....
Diseases of the genito-urinary system (non-venereal)	1,047	41.9	25	.....	4	2.31	20.10	.....	3.22
Diseases of the nervous system	1,027	13.7	75	1	3	2.26	60.29	.80	2.41
Diseases of the locomotor system	866	12.9	67	.....	3	1.91	53.86	.....	2.41
Diarrhœal diseases	636	4.0	158	.....	1	1.40	127.01	.....	.80
Malarial diseases	526	7.9	67	1	.....	1.16	53.86	.80	.....
Diseases of the ear	378	47.2	8	.....	1	.83	6.43	.....	.80
Diseases of the circulatory system	325	29.5	11	2	4	.72	8.84	1.61	3.22
Diseases of the eye	269	15.8	17	.....	2	.59	13.67	.....	1.61
Dietic diseases	249	4.0	62	.....	1	.55	49.84	.....	.80
Specific febrile and acute infectious diseases	196	24.5	8	.....	.....	.43	6.43	.....	.....
Diseases of the lymphatic system	118	39.3	3	.....	.....	.26	2.41	.....	.....
Zoögenous diseases	64	7.1	9	.....	.....	.14	7.23	.....	.....
Diseases of the nose	41	8.2	5	.....	.....	.09	4.02	.....	.....
Septic diseases	9	4.5	2	.....	.....	.02	1.61	.....	.....
Unclassified diseases	160	10.0	16	.....	.....	.35	12.86	.....	.....
Total	19,498	13.5	1,446	12	42	42.94	1,162.38	9.65	33.76

MIDDLE GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	6,192	12.4	500	3	6	7.87	232.02	1.39	2.78
Diseases of the digestive system	2,630	8.0	327	2	4	3.34	151.74	.93	1.86
Diseases of the respiratory system	2,568	14.4	178	4	9	3.26	82.60	1.86	4.18
Diseases of the nervous system	2,239	10.9	206	2	11	2.85	95.59	.93	5.10
Venereal diseases	2,156	24.5	88	.....	13	2.74	40.84	.....	6.03
Constitutional diseases	1,682	17.2	98	1	8	2.14	45.46	.46	3.71
Diseases of the integumentary system	1,230	10.4	118	.....	.....	1.56	54.76	.....	.....
Diseases of the eye	1,174	16.5	71	.....	6	1.49	32.95	.....	2.78
Specific febrile and acute infectious diseases	1,135	14.9	76	.....	.....	1.44	35.27	.....	.....
Diseases of the locomotor system	1,109	11.9	93	.....	8	1.41	43.16	.....	3.71
Malarial diseases	672	3.2	213	.....	1	.85	98.84	.....	.46
Diseases of the genito-urinary system (non-venereal)	671	24.0	28	.....	3	.85	12.99	.....	1.39
Diarrhœal diseases	645	5.4	119	.....	.....	.82	55.22	.....	.....
Dietic diseases	480	4.3	112	1	.....	.61	51.97	.46	.....
Diseases of the circulatory system	370	23.1	16	3	1	.47	7.42	1.39	.46
Diseases of the nose	225	37.5	6	.....	2	.29	2.78	.....	.93
Septic diseases	180	15.0	12	1	.....	.23	5.57	.46	.....
Diseases of the ear	138	23.0	6	.....	1	.18	2.78	.....	.46

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the lymphatic system	123	13.7	9	.....	.....	.16	4.18	.....	.....
Zoögenous diseases	96	9.6	10	.....	.....	.12	4.64	.....	.....
Typho-malarial fever	96	96.0	1	.....	.....	.12	.46	.....	.....
Developmental diseases	50	50.0	1	.....	1	.06	.46	.....	.46
Parasitic diseases	4	2.0	2	.....	.....	.01	.93	.....	.....
Unclassified diseases	1,092	11.6	94	1	.....	1.39	43.62	.46	.....
Total	26,957	11.3	2,384	18	74	34.27	1,106.26	8.35	34.34

SOUTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	6,748	13.7	494	7	9	9.42	251.66	3.57	4.58
Venereal diseases	4,361	25.1	174	.....	5	6.09	88.64	.....	2.55
Diseases of the digestive system	2,973	9.6	308	1	4	4.15	156.90	.51	2.04
Malarial diseases	2,780	14.0	199	.....	1	3.88	101.37	.....	.51
Constitutional diseases	2,485	21.8	114	.....	3	3.47	58.07	.....	1.53
Diarrhœal diseases	2,150	7.0	306	4	1	3.00	155.88	2.04	.51
Diseases of the respiratory system	1,806	11.1	163	6	4	2.52	83.04	3.06	2.04
Diseases of the nervous system	1,580	11.3	140	1	10	2.20	71.32	.51	5.09
Diseases of the integumentary system	1,533	14.6	105	.....	1	2.14	53.49	.....	.51
Specific febrile and acute infectious diseases	1,139	47.5	24	2	.....	1.59	12.23	1.02	.....
Diseases of the locomotor system	1,082	12.9	84	.....	4	1.51	42.79	.....	2.04
Diseases of the genito-urinary system (non-venereal)	1,044	24.3	43	1	4	1.46	21.91	.51	2.04
Diseases of the eye	935	21.2	44	.....	4	1.30	22.41	.....	2.04
Diseases of the lymphatic system	830	39.5	21	.....	1	1.16	10.70	.....	.51
Diseases of the circulatory system	491	35.1	14	2	3	.68	7.13	1.02	1.53
Dietic diseases	344	5.0	69	.....	2	.48	35.19	.....	1.02
Zoögenous diseases	217	5.7	38	.....	.....	.30	19.36	.....	.....
Typho-malarial fever	175	43.7	4	.....	.....	.24	2.04	.....	.....
Diseases of the ear	163	18.1	9	.....	1	.23	4.58	.....	.51
Diseases of the nose	110	18.3	6	.....	1	.15	3.06	.....	.51
Developmental diseases	37	37.0	1	.....	.....	.05	.51	.....	.....
Parasitic diseases	23	7.7	3	.....	.....	.03	1.53	.....	.....
Septic diseases	3	3.0	1	.....	.....	.01	.51	.....	.....
Unclassified diseases	240	21.8	11	.....	.....	.34	5.61	.....	.....
Total	33,249	14.0	2,375	24	58	46.40	1,209.88	12.22	29.55

TOTAL FOR THE REGION.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	17,950	13.3	1,346	17	19	9.17	251.03	3.17	3.54
Venereal diseases	8,311	25.6	325	.....	21	4.25	60.61	.....	3.92
Diseases of the digestive system	7,104	8.8	804	3	12	3.63	149.94	.56	2.24

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the respiratory system	6,821	13.4	508	10	19	3.49	94.74	1.86	3.54
Constitutional diseases	5,944	20.1	295	2	17	3.04	55.02	.37	3.17
Diseases of the nervous system	4,846	11.5	421	4	24	2.48	78.52	.75	4.48
Malarial diseases	3,951	10.3	385	1	1	2.02	71.80	.19	.19
Diseases of the integumentary system	3,821	12.7	302	.....	1	1.95	56.32	.....	.19
Diarrhœal diseases	3,458	5.1	677	4	3	1.77	126.26	.75	.56
Diseases of the locomotor system	3,057	12.5	244	.....	15	1.56	45.51	.....	2.80
Diseases of the genito-urinary system (non-venereal)	2,762	28.8	96	1	11	1.41	17.90	.19	2.05
Specific febrile and acute infectious diseases	2,470	22.9	108	2	.....	1.26	20.14	.37	.....
Diseases of the eye	2,378	18.0	132	.....	12	1.22	24.62	.....	2.24
Diseases of the circulatory system	1,186	26.5	41	7	8	.61	7.65	1.31	1.49
Dietic diseases	1,073	4.4	243	1	3	.55	45.32	.19	.56
Diseases of the lymphatic system	1,071	32.5	33	.....	1	.55	6.15	.....	.19
Diseases of the ear	679	29.5	23	.....	3	.35	4.29	.....	.56
Zoögenous diseases	377	6.6	57	.....	.....	.19	10.63	.....	.....
Diseases of the nose	376	22.1	17	.....	3	.19	3.17	.....	.56
Typho-malarial fever	271	54.2	5	.....	.....	.14	.93	.....	.....
Septic diseases	192	12.8	15	1	.....	.10	2.80	.19	.....
Developmental diseases	87	43.5	2	.....	1	.04	.37	.....	.19
Parasitic diseases	27	5.4	5	.....	.....	.01	.93	.....	.....
Unclassified diseases	1,492	12.3	121	1	.....	.76	22.56	.19	.....
Total	79,704	12.8	6,205	54	174	40.72	1,157.22	10.07	32.45

SPECIAL DISEASES.—For *pulmonary phthisis* the admission rate was 5.63 per 1,000 of mean strength in the northern group, 3.25 in the middle, and 5.09 in the southern; for *pneumonia* it was 1.61 in the northern, 5.10 in the middle, and 3.57 in the southern; for *pleuritis* it was 1.61 in the northern, 1.86 in the middle, and 2.55 in the southern; for *bronchitis* it was 91.64 in the northern, 45.94 in the middle, and 48.90 in the southern; for *catarrh and common colds* it was 29.74 in the northern, 23.67 in the middle, and 18.34 in the southern; for *acute articular rheumatism* it was 4.02 in the northern, 2.78 in the middle, and 9.17 in the southern; for *articular rheumatism* (*subacute and chronic*) it was 59.49 in the northern, 39.44 in the middle, and 45.85 in the southern; for *muscular rheumatism* it was 47.43 in the northern, 37.59 in the middle, and 32.60 in the southern; for *cholera morbus* it was 5.63 in the northern, 9.74 in the middle, and 6.11 in the southern; for *diarrhœa* (*acute and chronic*) it was 117.36 in the northern, 85.38 in the middle, and 130.92 in the southern; for *dysentery* (*acute and chronic*) it was 4.02 in the northern, 3.71 in the middle, and 18.85 in the southern; for *paroxysmal* (*malarial*) *fevers* it was 53.86 in the northern, 55.22 in the middle, and 101.37 in the southern; for *typhoid fever* it was 3.22 in the northern, 8.82 in the middle, and 9.68 in the southern group.

Of the class of *specific febrile and acute infectious diseases*, 108 admissions to sick report, or a rate of 20.14 per 1,000 of mean strength, were reported in the region during the year; of this number the white troops furnished 95 admissions, or a rate of 20.41 per 1,000 of mean strength, and the colored 13, or 18.36 per 1,000. The admission rates for these diseases,

by groups, were 6.43 for the northern, 35.27 for the middle, and 12.23 for the southern, per 1,000 of mean strength.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Cordilleras during the year comprised the months of March, April, and May in the northern group; September, October, and November in the middle group; and August, September, and October in the southern group. During the period of greatest sickness in the northern group the number constantly non-effective averaged 51.83 per 1,000 of mean strength, and the principal causes of this non-effectiveness were, in the order of their relative importance, contusions and sprains, bronchitis, and articular rheumatism (subacute and chronic). In the middle group, during the period of greatest sickness, the daily non-effective rate was 39.63 per 1,000 of mean strength, the principal causes being typhoid fever, simple continued fever, contusions and sprains, and venereal diseases. In the southern group the daily average of non-effectiveness was 56.14 per 1,000 of mean strength, and the prevailing causes were injuries, malarial diseases, and venereal diseases.

March showed a greater number of admissions to sick report than any other month of the year in the northern group, July in the middle, and August in the southern, the rates per 1,000 of mean strength being 124.43, 123.05, and 122.93, respectively; but the number constantly non-effective on account of sickness was greatest in April in the northern group, October in the middle, and September in the southern, the rates per 1,000 of mean strength being 52.41, 43.59, and 61.55, respectively.

The period of *least sickness* comprised the months of November and December in the northern group, June in the middle, and April and May in the southern, the constant non-effective rates being 34.12, 29.79, and 40.28, respectively.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that the period of greatest sickness remains the same in all the groups. In the first group, excluding the cases mentioned above, the prevailing diseases were bronchitis, diseases of the digestive system, diseases of the nervous system, and pulmonary phthisis, and the constant non-effective rate was 32.49 per 1,000 of mean strength, that for the whole year being 27.46. In the second, the prevailing causes of sickness were typhoid fever, diseases of the digestive system, headache and neuralgia, and articular rheumatism, and the constant non-effective rate was 29.62 per 1,000 of mean strength, that for the whole year being 23.05. In the third group the prevailing causes of admission were diseases of the digestive system, diarrhœal diseases, diseases of the nervous system, and remittent fever, and the constant non-effective rate was 41.10, that for the year being 30.42.

Excluding injuries, venereal diseases, and alcoholism, the period of least sickness remains the same in the northern group, but changes to March in the middle, and December in the southern, the rates being 22.85, 18.50, and 23.60, respectively.

HEALTH OF INDIVIDUAL POSTS.—In the northern group *Fort Missoula, Mont.*, furnished the highest admission rate for the year, 1,819.28 per 1,000

of mean strength; *Fort Washakie, Wyo.*, the highest constant non-effective rate, 63.02 per 1,000; *Fort Walla Walla, Wash.*, the highest death-rate, 17.42 per 1,000.

In the middle group *Fort Wingate, N. Mex.*, gave the highest admission rate for the year, 1,424.62 per 1,000 of mean strength; *Camp Pilot Butte, Wyo.*, the highest constant non-effective rate, 53.41 per 1,000; *Fort Marcy, N. Mex.*, the highest death-rate, 37.50 per 1,000.

In the southern group *Fort Selden, N. Mex.*, showed the highest admission rate, 1,976.75 per 1,000; *Fort Grant, Ariz.*, the highest constant non-effective rate, 80.15 per 1,000; *San Carlos, Ariz.*, the highest death-rate, 36.70 per 1,000.

As stated above, the highest death-rates for individual posts occurred at *Fort Marcy, N. Mex.*, and *San Carlos, Ariz.*, the former reporting 3 deaths, with a mean strength of 80, or a rate of 37.50 per 1,000, while at the latter 4 deaths occurred in a mean strength of 109.

Colored troops.—The mean strength of colored troops serving in the region of the Cordilleras was 708; 41 in the northern, 112 in the middle, and 555 in the southern group. In the northern group the admission and constant non-effective rates of the colored troops, counting all cases of disease and injury, were 1,415 and 77.39, respectively, per 1,000 of mean strength, as against 1,154 and 41.77 for the white troops.

In the middle group these rates were, for the colored 1,098 and 24.97, as against 1,107 and 34.78 for the white troops.

In the southern group, where the mean strength of colored troops was much greater than in either of the other groups, and furnished a more reliable basis for comparison, the rates were 1,476 and 57.12 for the colored, and 1,105 and 42.18 for the white.

Excluding from the calculation injuries, venereal diseases, and alcoholism, the constant non-effective rate of the colored troops remains higher than that of the white in the northern and southern groups, and lower in the middle group, being, respectively, 34.36, 17.04, and 33.08 for the colored, and 27.22, 23.38, and 29.38 for the white, in each of the three groups.

Excluding the cases mentioned above, the monthly admission rate of the colored troops in the northern group during November and December averaged 90 per 1,000 of mean strength, and that of the white troops 58 per 1,000 for the same period. The diseases, in the rates of occurrence of which the greatest disparity between the two races is observed, are dyspepsia, colic and constipation, and simple ephemeral and catarrhal fevers, the colored soldier showing for these causes admission rates for the year of 121.95 for the first group of diseases, and 73.17 for the second, per 1,000 of mean strength, while those for the white soldier are only 39.90 and 5.82. In the middle group during November and December the monthly admission rate of the colored troops averaged 113.04, and that of the white 60.64 per 1,000 of mean strength. The diseases showing the greatest disproportion in rates of occurrence were constitutional diseases, diseases of the genito-urinary system, and quinsy, their rates for the year for the colored troops being, respectively, 80.36, 35.71, and 26.79, while for the white troops they were 43.56, 11.75, and 5.87 per 1,000 of mean strength. In the southern group the admission rate for the colored troops in the month of October was 137.80 per 1,000 of mean strength, while that for the white troops was

only 57.53 for the same period, the rate for the colored troops being more than twice that for the white. For diseases of the respiratory system, diseases of the digestive system, constitutional diseases, and malarial fevers, the rates for colored troops in this group were, respectively, 118.92, 192.79, 81.08, and 129.73, per 1,000 of mean strength, and those for the white troops 68.89, 142.76, 49.01, and 90.20.

INDIAN SCOUTS.—The Indian scouts in this region gave a mean strength of 45 for the year, 9 in the northern, 6 in the middle, and 30 in the southern group. There were no admissions to sick report, or deaths, reported in the northern or middle groups. In the southern group there were two admissions to sick report, or a rate of 67 per 1,000 of mean strength, and one death, or a rate of 33 per 1,000 of mean strength. The admissions to sick report and the death were all due to gunshot wounds.

CIVILIANS WITH COMMAND.—With a mean strength of 5,362 officers and enlisted men serving in the region, there was constantly present during the year an average of 2,204 civilians. Of this number 530 were adult males, 775 adult females, and 899 children. The admissions to sick report numbered for the adult males 164, and the deaths 5; for the adult females 890, and the deaths 6; for the children 758, and the deaths 24; or an aggregate of 1,812 admissions and 35 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of August in the northern group, December in the middle group, and March and April in the southern group, the prevailing diseases being those of the digestive and nervous systems in the northern group, diseases of the respiratory system, and epidemic catarrh, in the middle group, and diseases of the respiratory and digestive systems, catarrh, and measles in the southern group.

The *least sickness* was reported during the month of May in the northern group, November in the middle group, and January in the southern group.

REGION OF THE PACIFIC COAST.

This region comprises areas of great diversity of elevation, rain-fall, and temperature, so that a strict classification can not be made without a very minute subdivision; but as the 13 military stations at present occupied are, with one exception, on or near the sea-coast, and none of them has an elevation of over 400 feet, it is thought to be sufficient for purposes of comparison to divide them into two groups, the northern and southern.

The following table shows the stations in the region of the Pacific Coast, with mean strength of command, rates of admission to sick report, constant non-effectiveness, discharges, and deaths:

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Northern group:									
Fort Townsend, Wash	53	44	12	56	1,056.60	2.13	40.27	1	.....
Fort Canby, Wash.	66	49	15	64	969.70	1.35	20.46	2	.....

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Vancouver Barracks, Wash.	470	385	102	487	1,036.17	19.32	41.11	15	4
In the field	10								
Total	599	478	129	607	1,013.36	22.81	38.07	18	4
Southern group:									
Fort Gaston, Cal.	36	52	12	64	1,777.77	2.29	63.70	1	
Fort Mason, Cal.	42	26	6	32	761.90	.87	20.74	1	2
Alcatraz Island, Cal.	91	42	11	53	582.42	1.74	19.15	1	
Angel Island, Cal.	142	88	20	108	760.56	5.19	36.58	8	1
Presidio of San Francisco, Cal.	404	201	82	283	700.50	13.19	32.64	13	3
Benicia Barracks, Cal.	63	31	12	43	682.54	2.32	36.88	1	
Benicia Arsenal, Cal.	54	34	7	41	759.26	1.11	20.55		
San Francisco, Cal.	43	1	1	2	46.51	.06	1.40		
Los Angeles, Cal.	28	1	4	5	178.57	.23	8.12		
San Diego Barracks, Cal.	51	59	9	68	1,333.33	2.77	54.31	3	
In the field	67	75	14	89	1,328.36	2.12	31.65	8	
Total	1,021	610	178	788	771.79	31.90	31.24	36	6
Total for the region	1,620	1,088	307	1,395	861.11	54.70	33.77	54	10

The force serving in this region during the year consisted of 19 companies of infantry, 11 batteries of artillery, 2 troops of cavalry, and 2 detachments of ordnance. These troops were all white. The mean strength, including officers, was 1,620 men. The total number of admissions to sick report was 1,395. Of this number, 717 were treated in quarters, 589 in hospital, and 89 in the field. The number of men daily non-effective on account of sickness averaged, in quarters 18, in hospital 35, in the field 2, total 55; from disease 43, injury 12. The discharges for disability numbered, from quarters 16, from hospital 30, from the field 8, total 54; for disease 50, for injury 4. The deaths numbered, in quarters 6, in hospital 4, total 10; from disease 5, injury 5.

The admission rate per 1,000 of mean strength was 861.11 for all men who were excused from any portion of their military duty on account of sickness, but for those cases which required admission to hospital the rate was 363.58. The ratio of deaths per 1,000 of mean strength was 6.17, in the proportion of 2.47 in hospital, and 3.70 in quarters; 3.08 from disease, and 3.09 from injury. The ratio of discharges for disability was 33.33, in the proportion of 9.87 from quarters, 18.52 from hospital, and 4.94 from the field; for disease 30.86, and for injury 2.47. The ratio of constant non-effectiveness on account of sickness was 33.77 per 1,000 of mean strength, in the proportion of 21.22 in hospital, 11.24 in quarters, and 1.31 in the field; 26.51 from disease, and 7.26 from injury. The average duration of each case of sickness was, for those treated in quarters 9 days, in hospital 21 days, in the field 9 days, and for all cases treated 14 days; for disease and injury each 14 days. The total loss of time on account of sickness averaged 12 days for each soldier in the command.

The average duration of treatment for patients who recovered and were

returned to duty was 11 days, for those who were discharged for disability 53 days, and for those who died 48 days. The ratio of recoveries per 1,000 of all admissions to sick report was 950.54, of discharges for disability 38.71, and of deaths 7.18.

The following table shows for each group of posts in the region of the Pacific Coast, and for the whole region, the number and classified causes of all admissions to sick report, deaths, and discharges occurring during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each:

NORTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	1,653	12.8	129	2	2	7.56	215.36	3.34	3.34
Venereal diseases	929	25.1	37		2	4.25	61.77		3.34
Diseases of the locomotor system	887	16.1	55		4	4.06	91.82		6.68
Diseases of the respiratory system	862	16.9	51		2	3.94	85.14		3.34
Diseases of the digestive system	784	9.7	81		2	3.59	135.23		3.34
Constitutional diseases	507	46.1	11		2	2.32	18.36		3.34
Diseases of the nervous system	456	11.4	40			2.09	66.78		
Malarial diseases	441	9.2	48			2.02	80.13		
Diseases of the genito-urinary system (non-venereal)	409	31.5	13	1		1.87	21.70	1.67	
Diseases of the eye	225	18.7	12		1	1.03	20.03		1.67
Dietic diseases	221	5.4	41			1.01	68.45		
Specific febrile and acute infectious diseases	198	15.2	13			.91	21.70		
Diarrhœal diseases	190	5.4	35			.87	58.43		
Diseases of the integumentary system	179	8.5	21			.82	35.06		
Diseases of the circulatory system	125	15.6	8	1	1	.57	13.36	1.67	1.67
Diseases of the ear	78	19.5	4		1	.36	6.68		1.67
Diseases of the lymphatic system	71	13.5	2		1	.32	3.34		1.67
Zoögenous diseases	57	19.0	3			.26	5.01		
Septic diseases	48	24.0	2			.22	3.34		
Unclassified diseases	4	4.0	1			.02	1.67		
Total	8,324	13.7	607	4	18	38.07	1,013.36	6.68	30.05

SOUTHERN GROUP.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	2,637	14.8	178	3	2	7.08	174.34	2.94	1.96
Venereal diseases	1,566	28.0	56		6	4.20	54.85		5.88
Constitutional diseases	1,296	32.4	40		3	3.48	39.18		2.94
Diseases of the digestive system	970	10.5	92		3	2.60	90.11		2.94
Diseases of the respiratory system	739	10.3	72		3	1.98	70.52		2.94

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Diseases of the nervous system	637	14.5	44	1	2	1.71	43.10	.98	1.96
Diseases of the integumentary system	537	7.8	69	.....	.....	1.44	67.58	.....	.....
Diseases of the circulatory system	527	75.3	7	.....	5	1.41	6.86	.....	4.90
Malarial diseases	504	13.3	38	.....	.....	1.35	37.22	.....	.....
Diseases of the genito-urinary system (non-venereal)	451	45.1	10	2	.....	1.21	9.79	1.96	.....
Specific febrile and acute infectious diseases	327	36.3	9	.....	.....	.88	8.81	.....	.....
Diarrhœal diseases	314	5.0	63	.....	.....	.84	61.70	.....	.....
Diseases of the eye	269	22.4	12	.....	2	.72	11.75	.....	1.96
Diseases of the locomotor system	266	10.2	26	.....	5	.71	25.47	.....	4.90
Dietic diseases	192	4.6	42	.....	.....	.52	41.14	.....	.....
Diseases of the lymphatic system	103	17.1	6	.....	.....	.28	5.88	.....	.....
Septic diseases	58	58.0	1	.....	.....	.16	.98	.....	.....
Zoögenous diseases	57	4.1	14	.....	.....	.15	13.71	.....	.....
Typho-malarial fever	53	53.0	1	.....	.....	.14	.98	.....	.....
Developmental diseases	19	19.0	1	.....	4	.05	.98	.....	3.92
Diseases of the ear	12	4.0	3	.....	1	.03	2.94	.....	.98
Diseases of the nose	11	11.0	1	.....	.....	.03	.98	.....	.....
Parasitic diseases	7	7.0	1	.....	.....	.02	.98	.....	.....
Unclassified diseases	91	45.5	2	.....	.....	.24	1.96	.....	.....
Total	11,643	14.8	788	6	36	31.24	771.79	5.88	35.26

TOTAL FOR THE REGION.

Classified causes.	Time lost—		Number of—			Ratios per 1,000 of mean strength of—			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
Injuries	4,290	14.0	307	5	4	7.26	189.51	3.09	2.47
Venereal diseases	2,495	26.8	93	.....	8	4.22	57.41	.....	4.94
Constitutional diseases	1,803	35.4	51	.....	5	3.05	31.48	.....	3.09
Diseases of the digestive system	1,754	13.0	173	.....	5	2.97	106.79	.....	3.09
Diseases of the respiratory system	1,601	13.0	123	.....	5	2.71	75.93	.....	3.09
Diseases of the locomotor system	1,153	14.2	81	.....	9	1.95	50.00	.....	5.56
Diseases of the nervous system	1,093	13.0	84	1	2	1.85	51.85	.62	1.23
Malarial diseases	945	11.0	86	.....	.....	1.60	53.09	.....	.....
Diseases of the genito-urinary system (non-venereal)	860	37.4	23	3	.....	1.45	14.20	1.85	.....
Diseases of the integumentary system	716	8.0	90	.....	.....	1.21	55.56	.....	.....
Diseases of the circulatory system	652	43.5	15	1	6	1.10	9.26	.62	3.70
Specific febrile and acute infectious diseases	525	23.9	22	.....	.....	.89	13.58	.....	.....
Diarrhœal diseases	504	5.1	98	.....	.....	.85	60.49	.....	.....
Diseases of the eye	494	20.6	24	.....	3	.84	14.81	.....	1.85
Dietic diseases	413	5.0	83	.....	.....	.70	51.23	.....	.....
Diseases of the lymphatic system	174	21.7	8	.....	1	.29	4.94	.....	.62
Zoögenous diseases	114	6.7	17	.....	.....	.19	10.49	.....	.....
Septic diseases	106	35.3	3	.....	.....	.18	1.85	.....	.....
Diseases of the ear	90	12.9	7	.....	2	.15	4.32	.....	1.23
Typho-malarial fever	53	53.0	1	.....	.....	.09	.62	.....	.....
Developmental diseases	19	19.0	1	.....	4	.03	.62	.....	2.47
Diseases of the nose	11	11.0	1	.....	.....	.02	.62	.....	.....
Parasitic diseases	7	7.0	1	.....	.....	.01	.62	.....	.....
Unclassified diseases	95	31.7	3	.....	.....	.16	1.85	.....	.....
Total	19,967	14.3	1,395	10	54	33.77	861.11	6.17	33.33

SPECIAL DISEASES.—For *pneumonia* the admission rate was 0 per 1,000 of mean strength in the northern group, and 2.94 in the southern; for *pulmonary phthisis* it was 3.34 in the northern, and 1.96 in the southern; for *bronchitis*, 71.79 in the northern, and 50.93 in the southern; for *catarrh and common colds*, 3.34 in the northern, and 9.79 in the southern; for *articular rheumatism*, 16.69 in the northern, and 35.26 in the southern; for *muscular rheumatism*, 85.14 in the northern, and 19.59 in the southern; for *diarrhœa (acute and chronic)*, 51.75 in the northern, and 40.16 in the southern; for *dysentery (acute and chronic)*, 0 in the northern, and 17.63 in the southern; for *cholera morbus*, 6.68 in the northern, and 3.92 in the southern; for *paroxysmal (malarial) fevers*, 80.13 in the northern, and 37.22 in the southern; for *typhoid fever*, 0 in the northern, and 5.88 in the southern.

Of the class of *specific febrile and acute infectious diseases*, 13 admissions to sick report, or a rate of 21.70 per 1,000 of mean strength, were reported in the northern group, and 9 admissions, or a rate of 8.81 per 1,000, in the southern.

PERIODS OF SICKNESS AMONG TROOPS.—Counting all cases of disease and injury, the period of *greatest sickness* among the troops serving in the region of the Pacific Coast during the year comprised the month of January in the northern group, and the months of August and September in the southern group. During this period in the northern group the number constantly non-effective on account of sickness was 49.02 per 1,000 of mean strength, and the principal causes of non-effectiveness were, in the order of their relative importance, venereal diseases and alcoholism, diseases of the respiratory system, and remittent fever. In the southern group, during the period of greatest sickness, the daily non-effective rate was 37.05 per 1,000 of mean strength, and the prevailing causes were injuries, venereal diseases, articular rheumatism (subacute and chronic), and diarrhœal diseases.

July showed a greater number of admissions to sick report than any other month of the year in both the northern and southern groups, the rate per 1,000 of mean strength being 99.03 and 93.00, respectively. The number constantly non-effective on account of sickness was greatest in January in the northern group, and in September in the southern, the rates per 1,000 of mean strength being 49.02 and 37.46, respectively.

The period of *least sickness* comprised the months of June and July in the northern group, and June in the southern, the constant non-effective rates per 1,000 of mean strength being 28.99 and 21.70, respectively.

In the above computations all cases of disease and injury have been included, but if cases of injury, venereal disease, and alcoholism are excluded from the calculation, it is found that the period of greatest sickness changes to January and February in the northern group, and to December in the southern, and the constant non-effective rate becomes much smaller. In the first group, excluding the cases mentioned above, the prevailing causes of sickness were diseases of the respiratory system, articular rheumatism (subacute and chronic), mumps, muscular rheumatism, and remittent fever, and the constant non-effective rate was 36.05 per 1,000 of mean strength, that for the year being 25.25. In the second group the principal causes of disability were diseases of the digestive

system, diseases of the respiratory system, typhoid fever, and diseases of the integumentary system, and the constant non-effective rate was 26.69 per 1,000 of mean strength, that for the year being 19.45.

Exclusive of injuries, venereal diseases, and alcoholism, the period of least sickness comprised the month of August in the northern group, and the months of May and June in the southern, the constant non-effective rates being 16.65 per 1,000 of mean strength for the northern group, and 12.69 for the southern.

HEALTH OF INDIVIDUAL POSTS.—In the northern group, *Fort Townsend, Wash.*, furnished the highest admission rate for the year, 1,056.60 per 1,000 of mean strength; *Vancouver Barracks, Wash.*, the highest constant non-effective and death-rates, 41.11 and 8.51, respectively. In the southern group, *Fort Gaston, Cal.*, furnished both the highest admission and constant non-effective rates, 1,777.77 and 63.70 per 1,000, respectively; *Fort Mason, Cal.*, the highest death-rate, 47.62 per 1,000 of mean strength.

Neither colored troops nor Indian scouts were in service in this region during the year.

CIVILIANS WITH COMMAND.—With a mean strength of 1,620 officers and enlisted men serving in the region, there was constantly present during the year an average of 1,176 civilians. Of this number 310 were adult males, 381 adult females, and 485 children. The admissions to sick report numbered for the adult males 189, with no deaths; for the adult females 208, and the deaths 2; for the children 334, and the deaths 6; or an aggregate of 731 admissions and 8 deaths.

The period of *greatest sickness* among civilian attachés comprised the month of April in the northern group of posts, and November in the southern, the prevailing diseases being those of the respiratory system in the northern, and of the respiratory and digestive systems in the southern group. The *least sickness* was reported during the month of November in the northern group, and in September in the southern group.

HEALTH OF THE ARMY AS A WHOLE.

The mean strength of the Army for the year, including officers and both white and colored enlisted men, was 23,841, as shown by the monthly reports of medical officers. Of this number 21,601 were white, and 2,240 were colored (of African descent). These figures represent the average number present, during each day of the year, with commands from which reports were received by the Medical Department. But the mean strength of the entire Army, as shown by the returns of the Adjutant General, was considerably greater than that given above, being 23,937 white, and 2,428 colored, or a total of 26,365 men. The discrepancy between the two sets of figures is due to the fact that every officer and enlisted man of the Army is accounted for on the returns of the Adjutant General, while the consolidated reports of the Medical Department show only the strength of the commands from which these reports are received, and do not include the strength of officers and enlisted men on detached service, and of those commands to which no medical officer is attached, or from which no reports are received.

All the ratios given under the heads of the different regions are based on the mean strength as shown by the medical reports, and, with the exception of the death and discharge rates, are very nearly correct, because no cases of disease or injury are reported for that portion of the Army whose mean strength is not reported also, and the number of cases thus lost probably balances the loss in strength. But in the record of deaths and discharges no such loss occurs, for all must, of course, be reported from one source or another; so that these two ratios, as stated for the several regions, are somewhat too high, because they are based upon the mean strength reported by medical officers, which, as above stated, is somewhat less than the actual strength of the respective commands. For the different regions, however, no other strength than that given in the medical reports is at hand, and consequently it has been necessary to use this strength in calculating *all* the ratios for these regions; but for the whole Army the mean strength as shown by the Adjutant General's returns is available, and has been used in computing the rates of *death and discharge*. For all other ratios the mean strength shown by the consolidated reports of the Medical Department is used, and not that of the Adjutant General, which would make these ratios too low, for reasons indicated above.

The Indian scouts employed as auxiliaries to the regular troops have not been included in the mean strength of the Army, or in calculating any of the ratios given in this report, for the reason that they have so little in common with the regular troops in respect of their surroundings, habits, manner of living, duration of service, etc., that no comparisons of any value can be made concerning them; and when sick they so rarely come under the observation of medical officers that the reports of commands to which they are attached furnish but little or no information relative to the amount and character of sickness among them.—[*Health of the Army*, 1886.]

In the following table the more important statistics relative to the health of the Army for the calendar year ending December 31, 1887, are briefly shown:

	White.	Colored.	Total.
Average strength as shown by returns of the Adjutant General	*23,937	*2,428	*26,365
as shown by reports of the Medical Department	†21,601	†2,240	†23,841
All admissions to sick report during the year	26,600	3,127	29,727
treated in hospital	12,968	1,435	14,403
treated in quarters	13,135	1,665	14,800
treated in the field	497	27	524
Ratio of all admissions per 1,000 of mean strength	1,231.42	1,395.98	1,246.88
for previous year	1,239	1,499	1,263
for preceding decade	1,655	1,843	1,672
Admissions for disease	21,438	2,450	23,888
ratio per 1,000 of mean strength	992.45	1,093.75	1,001.97
for previous year	1,017	1,236	1,036
for preceding decade	1,414	1,576	1,429
Admissions for injury	5,162	677	5,839
ratio per 1,000 of mean strength	238.97	302.23	244.91
for previous year	222	263	226
for preceding decade	241	267	244
Ratio per 1,000 of mean strength of cases treated in hospital	600.34	640.63	604.13
of cases treated in quarters	608.07	743.30	620.78
of cases treated in the field	23.01	12.05	21.98
Average number constantly non-effective during the year	907.08	103.20	1,010.28
ratio per 1,000 of mean strength	41.99	46.07	42.38
for the previous year	39.0	43.4	39.4
for the preceding decade	44.12	43.34	44.05
Number of days lost on account of sickness during the year	331,086	37,668	368,754
average for each man of the Army	15.3	16.8	15.5
for the previous year	14.2	15.9	14.4
for the preceding decade	16.10	15.82	16.08
Average number of days each case was treated	12.4	12.0	12.4
for the previous year	11.5	10.6	11.4
for the preceding decade	10.2	6.0	9.9
Average days treatment for patients returned to duty	11	11	11
discharged for disability	75	76	75
who died	26	22	25
Number of discharges for disability	637	77	714
ratio per 1,000 of mean strength	26.61	31.71	27.08
for the previous year	24.9	24.6	24.9
for the preceding decade	32.08	30.74	31.96
Number of discharges for disease	578	70	648
ratio per 1,000 of mean strength	24.15	28.83	24.58
for the previous year	22.83	22.05	22.76
for the preceding decade	28.02	26.19	27.86
Number of discharges for injury	59	7	66
ratio per 1,000 of mean strength	2.46	2.88	2.50
for the previous year	2.11	2.54	2.15
for the preceding decade	4.06	4.55	4.10
Number of deaths from all causes	188	26	214
ratio per 1,000 of mean strength	7.85	10.71	8.12
for the previous year	9.0	7.2	8.8
for the preceding decade	11.14	13.43	11.34
Number of deaths from disease	130	19	149
ratio per 1,000 of mean strength	5.43	7.83	5.65
for the previous year	5.90	4.24	5.75
for the preceding decade	6.19	7.61	6.32
Number of deaths from injury	58	7	65
ratio per 1,000 of mean strength	2.42	2.88	2.47
for the previous year	3.08	2.97	3.07
for the preceding decade	4.95	5.82	5.02

*Used in computing the ratios of deaths and discharges for the whole Army.
†Used in computing all ratios for the Army, except those of deaths and discharges.

ADMISSIONS TO SICK REPORT.

Medical officers of the Army are required to record, and report in detail, the cases of all officers or enlisted men who are excused from the whole, or any portion, of their military duty on account of sickness, and this regardless of whether the case is treated in hospital, quarters, or the field, or whether it requires any treatment at all, the object being to secure a reliable record of every case of disease or injury, whether trivial or serious, by which the effective force of the Army suffers any impairment whatever, or which can be made the basis of a future claim against the Government. Furthermore, it not infrequently occurs that patients, who have been

reported as returned to duty, are re-admitted one or more times for a recurrence of the original disability, and are taken upon sick report and accounted for as new cases of that disability.

It is evident, therefore, that the aggregate of admissions to sick report is very much increased by the inclusion of many trifling and unimportant cases, as well as by re-admissions for recurrent disabilities previously recorded as terminating in a return of the patients to duty, and that the total admission rate cannot be used for purposes of exact comparison, or be considered a reliable index of the health of the Army. For these purposes the ratios of constant impairment of force, and of deaths and discharges, are much more reliable, as is, to a less degree, the ratio of admissions to hospital. Wherever practicable in this report the number, and ratio per 1,000 of mean strength, of cases treated in hospital, in quarters, and in the field, have been stated separately.

The total number of admissions to sick report for all causes during the year 1887 was 29,727, or a rate of 1,246.88 per 1,000 of mean strength, as against a rate of 1,263 for 1886, and 1,672 for the previous decade, showing that the improvement noted in the last annual report has continued.

The admissions for disease during the year numbered 23,888, and for injury 5,839, giving rates of 1,001.97 and 244.91, respectively; these rates for 1886 were, for disease 1,036.48, for injury 226.07; and for the previous decade, disease 1,428.51, injury 243.64.

From a comparison of the figures given above it becomes evident that, while the total rate of occurrence of disabilities in the Army has been greatly diminished, this diminution has been confined to those disabilities which owe their origin to disease, the rate for those due to injury being considerably higher for 1887 than for 1886, and a little higher than the average for the previous decade. It is manifest, therefore, that the decrease which has taken place in the total admission rate of the Army must be attributed entirely to a reduction in the number, or a lessening of the activity, of the causes of disease, or to both combined; and there can be no doubt that the improvement noted is largely the result of the increased attention which has lately been paid to matters pertaining to the hygiene of the Army, and the consequent changes for the better which have been effected in the sanitary conditions to which the troops are subjected.

The number of cases treated in hospital during the year was 14,403, in quarters 14,800, and in the field 524, giving admission rates of 621, 604 and 22, per 1,000 of mean strength of the whole Army, respectively. For 1886 these rates were 546, 688 and 29.

The cases of officers aggregated 1,035, their admission rate being 628.42 per 1,000 of mean strength. The cases of enlisted men numbered 28,692, and their rate was 1,292.78 for all admissions. But for patients requiring treatment in hospital, nearly all of whom were enlisted men, the admission rate was 621, which is a little lower than the total rate for the officers, nearly all of whom were treated in quarters.

Excluding cases of injury from the calculation, and dealing only with disabilities due to disease, it is found that the engineers gave the highest ratio for this class of admissions, 1,792.12; recruits at depots the next, 1,499.40; and other branches of the service in the following order: ordnance, 1,107.97; artillery, 1,046.63; cavalry, 998.47; infantry, 985.91.

Among men of from 16 to 20 years of age the admission rate for disease was 1,692.31; from 21 to 25, 1,334.71; from 26 to 30, 913.82; and for all ages over 30, 811.56. In the first 5 years of service it was also much higher than for any subsequent period, being 1,151.86 for men with 5 years' service or under, and for all over that 778.76, per 1,000 men of each group of ages. The different nativities represented in the Army gave rates (injuries excluded) in the following order: Scotch, 1,151.11; French, 1,084.91; English, 1,057.97; *United States*, 1,028.30 (white 1,014.67, colored 1,103.03); Irish, 1,023.35; Swiss, 943.93; Canadian, 935.34; Austrian, 920.40; Scandinavian, 906.02; Danish, 887.57; German, 874.58.

The region of Central Timbered Plains and Hills showed the highest admission rate for all causes (injuries included), 1,944.23, and the highest for disease only, 1,668.45; the Pacific Coast gave the lowest for all causes, 861.11, and the lowest for disease only, 671.61. During the previous year the former region gave the highest rate, and the latter the next to the lowest. The Northern Lakes, which for the past year gave the next to the lowest rate, in 1886 gave the lowest.

CONSTANT NON-EFFECTIVENESS.

For reasons previously stated the actual impairment of force which the Army suffers on account of sickness, as well as the relative importance of the various causes of sickness, cannot be measured with any degree of accuracy by the number of admissions to sick report, but they are shown very clearly by the aggregate loss of time which these admissions individually and collectively cause, and from this aggregate the average non-effectiveness can be readily and accurately determined, as well as the extent to which the different causes of disability are operative in impairing the health and efficiency of troops.

The total loss of time on account of disability during the past year was 368,754 days, or an average of 15.5 days for each man in the Army, and was equivalent to the loss of the services of 42.38 men per 1,000 of mean strength of the Army for each day of the year. These figures represent a ratio of constant non-effectiveness somewhat higher than that of the previous year, which was 39.4, but lower than that of the preceding decade, which was 44.0.

The Army of the United States suffered a constant impairment of force by reason of disability greater than that shown by the latest accessible reports of any of the foreign armies mentioned below, except the British. The ratios of constant non-effectiveness, per 1,000 of mean strength, of the various armies are as follows, arranged in the order of their relative positions: Great Britain (1885), 57.9; *United States* (1887), 42.38; *United States* (1876–1885), 44.0; Austria (1886), 41.0; France (1884), 39.3; Prussia and Würtemberg (1881–1882), 38.9; Italy (1885), 33.4; Belgium (1886), 28.8.

The ratio of non-effectiveness due to diseases was 33.70, per 1,000 of mean strength (white 33.47, colored 35.84); that due to injuries was 8.68 (white 8.52, colored 10.23).

The constant non-effective rate of patients treated in hospital was 28.37, in quarters, 13.62, and in the field .39, per 1,000 of mean strength of the

whole Army, against 25.93, 12.69, and .79 for the previous year. The fact that the admission rate of patients treated in quarters was higher than that of patients treated in hospital, while the non-effective rate of the former was less than one-half that of the latter, goes to show not only that the disabilities treated in quarters were relatively much less important factors in the impairment of the efficiency of the Army than those treated in hospital, but that, as previously stated, the total admission rate can not be safely used for purposes of comparison, or be considered a reliable index of the health of the Army.

The non-effective rate of officers (45.28) was somewhat in excess of that of enlisted men (42.16), although the admission rate of the former was only a little more than half that of the latter. Recruits at depots gave the highest non-effective rate, 67.14, and the engineers the next, 59.89; in the other departments and arms of the service no noticeable variation from the mean was shown.

Excluding injuries from the calculation, and considering only disabilities dependent upon disease, so as to estimate more accurately the influences of race, nativity, age, and length of service, it is found, as above stated, that the colored troops showed a greater degree of constant impairment of force from disease alone than the white troops. Recruits at depots gave the highest non-effective rates, 60.40, and others in the following order: engineers, 43.90; cavalry, 34.12; infantry, 33.15; artillery, 29.66; ordnance, 28.69; all others, 11.60. For men of from 16 to 25 years of age this rate was 43.60; from 26 to 30, 28.91; over 30, 29.81. For the first five years of service it was 37.42, and for all over that 28.17. Of the different nativities represented the French gave the highest rate, 44.46; the Scotch second, 42.21; and the *United States* third, 35.59. The Austrians gave the lowest, 25.63; the Danish next, 25.94; and the Irish next, 28.80.

The troops serving in the region of Central Timbered Plains and Hills suffered the greatest constant impairment of force during the year, their non-effective rate being (injuries included) 79.07 per 1,000 of mean strength; the Gulf Coast stood second with a rate of 49.50. The Northern Lakes gave the lowest rate, 25.72, and, excluding the Appalachian region, the Pacific Coast the next, 33.77. The two regions first mentioned occupied the same relative positions during the previous year, 1886, but the lowest rates for that year, excluding the Appalachian region, were given by the regions of the Northern Lakes and Eastern Timbered Plains and Hills.

The special causes which produced the greatest constant impairment of force during the year were as follows, in the order of their respective non-effective rates: venereal diseases, 5.11 per 1,000 of mean strength; contusions and sprains, 3.77; malarial fevers and resulting conditions, 2.99; articular rheumatism, 2.68; diseases of the integumentary system, 2.25.

TIME LOST ON ACCOUNT OF SICKNESS.

Counting admissions to sick report of every description, the average loss of time on account of sickness during the year was 15.5 days for each man in the Army, showing a change for the worse as compared with the previous year, the average for 1887 being 1.1 days higher than that for 1886, and only .6 of a day lower than that for the previous decade. The average for the colored troops was 16.8 days, and for the white 15.3.

In respect of the average sick time for each man, our own Army compares unfavorably with most foreign armies, all, whose reports are at hand, giving lower figures than our own, except the British. The average loss of time for each soldier in the various armies, according to the latest reports received, is as follows: Great Britain, 21 days; *United States*, 15.5; France, 14; Prussia and Würtemberg, 13; Italy, 12; Austria, 11; Belgium, 11.

The loss of time for each case reported, or the average duration of treatment, was 12.4 days, against 11 days for 1886, and 9.6 for the previous decade. In this particular our Army compares very favorably with the armies of foreign countries, the several averages being, Great Britain, 19 days; Italy, 15; Austria, 14; *United States*, 12.4; Prussia and Würtemberg, 11; France, 7; Belgium, 7.

The average duration of treatment for cases occurring among colored troops was 12.04 days, and for the white 12.45. For cases treated in hospital it was 17.1, in quarters 8.0, and in the field 6.5; for disease 12.3, and for injury 12.9; for patients who recovered and returned to duty 11; for those who died 25; and for those who were discharged for disability 75.

Counting all admissions to sick report the duration of treatment averaged longest in the Central Timbered Plains and Hills and Gulf Coast regions (15 days for each), and shortest (9 days) in the region of Eastern Timbered Plains and Hills (excluding the Appalachian region).

DEATHS.

The deaths from all causes during the year numbered 214; of these 65 were due to injury, and 149 to disease. The death-rate was 8.12 per 1,000 of mean strength, being a little lower than that for 1886, which was 8.82, and considerably lower than the rate for the previous decade, which was 11.4. The ratio of deaths from disease was 5.65 for the past year, 5.7 for 1886, and 6.3 for the previous decade; from injury, 2.47 for the past year, 3.1 for 1886, and 5.0 for the decade. For cases treated in hospital, it was 4.55; in quarters 3.41; and in the field .15, per 1,000 of mean strength of the whole Army. For officers it was 9.3, and for enlisted men 8.0.

The death-rate of the Army of the United States continues to be higher than that of any of the foreign armies, whose reports are at hand, except the British and Italian. The rates of the various armies, as gathered from the latest reports received, are as follows: Great Britain, 11.4; Italy, 10.3; *United States*, 8.1; France, 7.6; Austria, 7.2; Belgium, 5.1; Prussia and Würtemburg, 4.6.

The death-rate of the colored troops (10.71) was higher than that of the white (7.85). In 1886 the reverse was the case, the rates being 9.0 for the white, and 7.2 for the colored; but the averages for the previous decade, 13.4 for the colored and 11.1 for the white, are in very nearly the same proportion as the rates for the past year.

The death-rates of the different branches of the service were as follows, arranged in order from the highest to the lowest: non-commissioned staff, including hospital corps, 16.6; recruits at depots, including depot detachments, 14.3; general officers, and officers of the general staff, 10.0; signal corps, 8.5; artillery, 8.4; infantry, 8.2; engineers, 7.7; ordnance, 6.3; cavalry, 5.7; general service, 3.9. Among men of different ages the ratio

of deaths was highest for those of from sixteen to twenty, 17 deaths in a mean strength of 199 for this quinquennial group giving a death-rate of 85.4 for the group, or over ten times the average for the Army. The remaining groups of ages gave rates in the following order: over sixty, 24.1 (2 deaths in a mean strength of 83); forty-six to fifty, 15.5; forty-one to forty-five, 12.5; thirty-six to forty, 9.6; thirty-one to thirty-five, 8.6; fifty-one to fifty-five, 8.5; twenty-one to twenty-five, 7.6; fifty-six to sixty, 5.1; twenty-six to thirty, the lowest, 3.6 (28 deaths in a mean strength of 7,731 for the group). For all ages not over thirty the death-rate was 6.61 per 1,000, and for all over thirty, 10.29.

For the first quinquennial period of service the death-rate was 6.79; for the second, 6.11; and for all over 10 years, 12.79.

Of the various nativities, the Scotch gave the highest death-rate, 12.1; the English the second, 11.4; and the German the third, 9.6. The Austrian gave the lowest, 4.6; the Canadian the second, 6.3; and the Irish the third, 7.0.

The region of Central Timbered Plains and Hills furnished the highest death-rate for the year, 17.57 (excluding the Appalachian region), and the Cordilleras the next, 10.07. The Prairies gave the lowest rate, 5.44, and the Pacific Coast the next, 6.17. In 1886 the Central Timbered Plains and Hills furnished the highest death-rate for the year, and the Eastern Timbered Plains and Hills the lowest.

Of the different causes of mortality *pneumonia* and *shot wounds* were charged with the greatest number of deaths, 26 each; *typhoid fever*, 17; *drowning*, 16; *diseases of the heart and valves*, 16; *pulmonary phthisis*, 13.

DISCHARGES FOR DISABILITY.

The total number of discharges for disability during the year was 714; of these 66 were for injury and 648 for disease. The ratio of all discharges per 1,000 of mean strength of the Army was 27.08, against 24.91 for the previous year, and 32.0 for the preceding decade. The ratio of discharges for disability the result of disease was 24.58 for the past year, 22.8 for 1886, and 27.9 for the previous decade; for injury, 2.5 for the past year, 2.1 for 1886, and 4.1 for the decade. For cases treated in hospital it was 18.21; in quarters 8.53; and in the field .34.

In comparison with foreign armies the United States stands third in the order of relative frequency of occurrence of discharges for disability. The rates of the various armies are as follows: Austria, 48.0; Prussia and Würtemberg, 27.3; *United States*, 27.1; Great Britain, 19.3; France, 16.4; Italy, 14.1; Belgium, 8.9.

The colored troops gave a discharge rate (31.71) considerably higher than the white (26.61). For the previous year the rates of the two races were about equal (white 24.9, colored 24.6), but for the preceding decade the average rate of the white troops was the higher (white 32.1, colored 30.7).

To facilitate comparisons with previous reports of our own Army, and with the reports of certain foreign armies in which the same course has been pursued, the discharge rates given above have been computed on the mean strength of the whole Army, including officers, who, of course, fur-

nished no discharges. If the mean strength of the enlisted men only, among whom all the discharges occurred, is taken as the basis of the calculation, the discharge rate for the Army becomes 29.50; for white troops 29.25, colored 31.75; for disease 26.77, injury 2.73; and for cases treated in hospital 19.83, in quarters 9.30, in the field .37.

Of the different branches of the service the engineers furnished the greatest proportionate number of discharges, their rate being 44.2 per 1,000 of mean strength of enlisted men; the cavalry gave a rate of 35.3: infantry, 30.5; artillery, 26.8; recruits at depots, 23.1; ordnance, 19.3; signal corps, 8.8; general service, 3.9; non-commissioned staff, including hospital corps, 1.7.

For men not over twenty years of age the rate was 266.3 per 1,000 of mean strength (53 discharges in a mean strength of 199); from twenty-one to twenty-five, it was 35.2; and for all ages over twenty-five, 24.03. In the first quinquennial period of service it was 32.86; in the second, 21.25; and for all over 10 years, 25.91. Of the different nativities the Scotch gave the highest rate, 50.2, and the Canadian the lowest, 17.5.

The region of the Gulf Coast showed the highest rate for the year, 63.33, and the Pacific Coast the next, 33.33; the Eastern Timbered Plains and Hills the lowest, 16.36 (excluding the Appalachian), and the Northern Lakes the next, 20.71. For the previous year the highest discharge rate was furnished by the Gulf Coast, and the lowest by the Northern Lakes.

The causes of disability for which the greatest number of discharges were reported were as follows: *venereal diseases*, which were charged with 104 discharges; *rheumatism*, 59; *pulmonary phthisis*, 48; *insanity*, 39; *diseases of the heart and valves*, 37; *hernia*, 28; *epilepsy*, 25.

HEALTH OF VARIOUS REGIONS.

Taking the degree of constant impairment of force as the standard of comparison, it is found that, of the several regions into which the country has been divided, the Central Timbered Plains and Hills showed the greatest amount of sickness during the past year, as it did for the previous year, its constant non-effective rate being 79.07 per 1,000 of mean strength, or nearly double that of any other region. Its admission and death-rates were also very high, the former being 1,944.23 per 1,000 of mean strength, and the latter 17.57, both of which are very much higher than the corresponding rates of any other region. For the previous year its ratio of admissions was 2,222, of constant non-effectiveness 75, and of deaths 11.7, per 1,000 of mean strength, all of which were the highest for the year.

It is not to be inferred, however, that the excessive amount of sickness and mortality among troops serving in the region of Central Timbered Plains and Hills is wholly due to causes peculiar to the region itself, because, out of a total mean strength of 1,309 men for the year, the two large recruiting depots of Columbus Barracks, Ohio, and Jefferson Barracks, Mo., furnished 1,068, or 82 per cent. of the aggregate strength of the region, so that the figures given above are to be looked upon as relating chiefly to recruits at depots, who, as a class, always give exceptionally high rates of sickness and mortality.

But it should be noted here that the sickness and mortality among recruits in this region are very much greater than among recruits elsewhere; so that, after making all allowances, it is safe to say that, so far as the Army is concerned, the region of Central Timbered Plains and Hills is the unhealthiest section of the country in which troops are now stationed.

Next to the region of Central Timbered Plains and Hills, the Gulf Coast gave the highest non-effective rate, 49.50. The Northern Lakes gave the lowest, 25.72, and the Pacific Coast next, 33.77. The Appalachian region gave a non-effective rate of 26.07, but, as this was based upon a mean strength of only 68 men, it has not been considered in making this comparison.

In making the calculations upon which the foregoing statement is based, all cases of disease and injury have been included, but if injuries, venereal diseases and alcoholism are excluded, so as to estimate more accurately the influences exerted upon the health of troops by peculiarities of environment, it is found that the relative positions of the several regions in respect of constant impairment of force remain as stated above, but, of course, that the different ratios become considerably smaller, the non-effective rate of the region of Central Timbered Plains and Hills being 57.21; Gulf Coast, 32.80; Northern Lakes, 15.04; Pacific Coast, 21.60.

HEALTH OF INDIVIDUAL POSTS.

Taking the degree of constant impairment of force as the measure, and including in the calculation all causes of disability, it appears that the recruiting depot at Jefferson Barracks, Mo., continued to enjoy for the past year, as it had for 1886, the unenviable distinction of being the unhealthiest post of the Army. With a mean strength of 669 men, chiefly cavalry recruits, its ratio of constant non-effectiveness was 96.79 per 1,000, or more than double the average for the Army, and 16 per 1,000 higher than the corresponding rate of any other station. Its admission rate was 2,133.03, and its death-rate 28.40, which were, respectively, the second and fifth highest rates of individual posts.

Malarial fevers, venereal diseases, and diarrhœal diseases, were the leading causes of impairment of force, the constant non-effective rate of the first being 22.29, of the second 10.09, and of the third 7.52, per 1,000 of mean strength.

For the previous year the constant non-effective rate of this post was 100 per 1,000 of mean strength, the admission rate 3,008, and the death-rate 21.44, from which it will be seen that for the past year, as compared with the previous one, the admissions to sick report were of decidedly less frequent occurrence, that the constant impairment of force was also somewhat less, but that the proportionate number of deaths was considerably greater. This increase in the death-rate was chiefly due to the unusually large number of fatal cases of pneumonia.

The excessive amount of sickness at Jefferson Barracks is owing in part, no doubt, to the fact that its garrison is largely composed of recruits, but that much of it is due to other causes is shown by a comparison of the rates of sickness and mortality at this depot with those of the other recruiting

depots at David's Island, N. Y., and Columbus Barracks, Ohio, both of which stations give rates much lower than those of Jefferson Barracks, while one of them, David's Island, gives a constant non-effective rate lower than the average for the Army.

The following table shows the mean strength of command, and the number and ratios, per 1,000 of mean strength, of admissions to sick report, men constantly non-effective on account of sickness, deaths, and discharges reported during the year at these recruiting depots, and for the whole Army.

	Number of—				Ratios per 1,000 of mean strength of—			
	Admissions.	Men constantly non-effective.	Deaths.	Discharges.	Admissions.	Men constantly non-effective.	Deaths.	Discharges.
Jefferson Barracks	1,427	64.75	19	15	2,133.03	96.79	28.40	22.42
Columbus Barracks	775	29.73	2	16	1,942.36	74.51	5.01	40.10
David's Island	825	22.69	5	9	1,437.28	39.53	8.71	15.68
Army	29,727	1,010.28	214	714	1,246.88	42.38	8.12	27.08

Fort Grant, Ariz., with a mean strength of 199, gave the second highest ratio of constant non-effectiveness, 80.15 per 1,000 of mean strength, the principal causes being venereal diseases, contusions and sprains, and malarial fevers, in the order of their relative importance. Fort Brown, Tex., stood third, with a mean strength of 132, and a non-effective rate of 76.94, the leading causes being the same as at Fort Grant, except that malarial diseases occupied the second place, and contusions and sprains the third. Fort Thomas, Ariz., came fourth with a non-effective rate of 74.54; Columbus Barracks, Ohio, fifth, 74.51; Fort Omaha, Nebr., sixth, 72.42.

Except in two instances, the highest ratios of admission to sick report were given by posts other than those at which the greatest actual impairment of force was reported, which fact only goes to substantiate the statement previously made that the admission rate alone can not be relied upon for purposes of comparison, or to serve as the measure of the health of a command.

The posts showing the highest ratios of admission to sick report for the year were: Willets Point, N. Y., 2,342.13; Jefferson Barracks, Mo., 2,133.03; Fort Myer, Va., 2,093.75; Fort Pembina, Dak., 1,988.10; Fort Selden, N. Mex., 1,976.75; Columbus Barracks, Ohio, 1,942.36.

The highest death-rates per 1,000 of mean strength were: Fort Marcy, N. Mex., 37.50; San Carlos, Ariz., 36.70; Fort Hancock, Tex., 31.75; Mount Vernon Barracks, Ala., 28.57; Jefferson Barracks, Mo., 28.40; Fort McHenry, Md., 25.64.

The highest ratios of discharge for disability per 1,000 of mean strength were: Fort Brown, Tex., 121.21; Fort Verde, Ariz., 76.92; Fort Du Chesne, Utah, 62.78; Fort Myer, Va., 62.50; Whipple Barracks, Ariz., 61.45; Fort Schuyler, N. Y., 57.97.

The smaller posts and arsenals have been excluded in making all of the foregoing comparative statements, but, notwithstanding this, the numbers involved in some of them are so small that the ratios given possess but little significance.

SPECIAL CAUSES OF ADMISSION TO SICK REPORT.

Specific Febrile and Acute Infectious Diseases.

The admissions for this class of diseases during the year numbered 523, the deaths 18, and the discharges none. There were 76 admissions, with 2 deaths, among colored troops, giving rates of 33.93 and .82, per 1,000 of mean strength, respectively. The corresponding rates for white troops were 20.69 and .67.

The admission rate for the whole Army was 21.94 per 1,000 of mean strength, against 8.36 for 1886, and an average of 25.39 for the previous decade. The unusually high rate for 1887 was chiefly due to an increase over previous years in the proportionate number of cases of typhoid fever, influenza, measles, mumps, and quinsy.

The death-rate for all diseases of this class, however, was only .68 per 1,000 of mean strength, while that for 1886 was .88, and for the previous decade .89, showing that, notwithstanding the greater prevalence of these diseases during the past year, the actual loss to the service by deaths therefrom was less than that of the previous year, or the average for the preceding decade.

These diseases were most prevalent, and attended with the highest mortality, among recruits at depots, their admission rate being 51.50 per 1,000 of mean strength, and their death-rate 3.29.

The cavalry arm of the service showed a lower admission rate than either the artillery or infantry, and a lower death-rate than the artillery, whereas in 1886 both the admission and death-rates of the cavalry for these causes were higher than those of the other arms.

The following table shows for the different arms of the service the ratios, per 1,000 of mean strength, of the admissions to sick report and deaths caused by each disease of this class:

Diseases.	Ratio per 1,000 of mean strength of each arm.									
	Admissions.					Deaths.				
	Infantry.	Cavalry.	Artillery.	All others.	Whole Army.	Infantry.	Cavalry.	Artillery.	All others.	Whole Army.
Typhoid fever	9.86	3.67	11.66	3.68	7.30	.42	.56	.70	1.32	.64
Measles	1.50	1.98	7.38	10.79	3.86					
Mumps	1.97	1.07	2.33	8.34	2.85					
Influenza	3.94	.46		1.96	2.22					
Quinsy	3.85	6.88	1.55	1.47	4.03					
Scarlet fever		.31			.08					
Whooping-cough			.39		.04					
Diphtheria	.09	.15		.49	.17					
Small-pox			.38	.25	.08					
Chicken-pox	.19	.15			.13					
Cerebro-spinal fever				.25	.04				.22	.04
All others of this class	.19	.61	7.00	.74	1.13					
Total	21.59	15.30	30.70	27.96	21.94	.42	.56	.70	1.54	.68

The Appalachian Mountain region gave the highest admission and death-rates of the year for diseases of the specific febrile and acute infectious class, 73.53 and 14.71, respectively; but as these rates are based upon a mean strength of only 68 men, with 5 admissions and 1 death, the figures

given have no particular significance. Excluding the foregoing, the region of Central Timbered Plains and Hills shows the highest admission rate, 45.84, and the highest death-rate, 3.06, per 1,000 of mean strength. In the region of the Gulf Coast the admission rate was lowest, 3.33, and no deaths were recorded.

The following table shows the rates of occurrence of some of the principal diseases of this class in the Army of the United States for the year 1887, and the average for the previous decade, together with the admission rates of the same diseases in certain foreign armies, as gathered from the latest reports accessible:

Diseases.	Armies.							
	United States, 1887.	United States yearly average, 1876–'85.	Austria-Hungary, 1886.	Belgium, 1886.	France, 1885.	Great Britain, 1885.	Italy, 1885.	Prussia and Würtemberg, 1881–'82.
Typhoid fever	7.30	4.18	5.64	6.31	11.85	8.80	7.41	5.53
Typhus fever		.05	.07			.04	.09	.24
Yellow fever		.28				.03		
Small-pox	.08	.25	1.39	.22	.36	.48	.65	.01
Varioloid		.19				.79		.03
Chicken-pox	.13	.15		.06		.10		
Measles	3.86	2.49	1.24	1.15	6.11	.89	6.44	.62
Scarlet fever	.08	.24	.16	1.58	1.27	.57	.11	1.87
Mumps	2.85	2.88	1.00	.38	*	.52	4.15	*
Diphtheria	.17	.58	.14	.20	†	.10	.03	1.63
Whooping-cough	.04	.07						
Cerebro-spinal fever	.04	.08	.06	.40	.08	.03	.33	.01
Cholera			.43		.69	1.25	.49	.02

*Mumps being included among diseases of the digestive system, the cases are not specially enumerated.

†The number, though quite large, is not definitely stated. Not less than 53 deaths are recorded under diphtheria. The French report calls attention to the continuously existing greater prevalence of diphtheria among troops performing stable duties. Judging from the death record of the Austrian and the Prussian armies, their experience does not seem to point in the same direction.

DIPHTHERIA: Four cases of this disease, with no deaths, occurred among the white troops, and none among the colored troops. Jefferson Barracks, Mo., Chicago, Ill., Fort Robinson, Nebr., and Fort Hancock, Tex., each furnished one case. At Fort Wood, N. Y., in November, the disease appeared in the family of an enlisted man, and before it could be checked his wife and seven children were all affected; two children died; the remaining six cases recovered. A careful investigation was made, but the source of the infection was not discovered.

At West Point, N. Y., two cases of diphtheria, with one death, were reported during the month of June; all occurred in the family of an officer at the post. In reporting upon the origin of these cases Surgeon A. K. Smith says: "The cases of diphtheria occurred through the criminal carelessness of a cook employed in the family of an officer at the post. This woman lost a child from the disease on the 9th of May, and immediately afterward came up to the post, bringing with her some of the child's clothing, and notably a large lock of its hair. She denied that her child had been affected with any contagious or infectious disorder, but I have since learned from its physician the true nature of her child's illness. A few days before the children at the post were taken ill, this woman opened her

trunk in their presence, and showed them the hair cut from her child's head, and thus undoubtedly communicated the infection."

At Jefferson Barracks, Mo., in March, Surgeon E. McClellan reported the appearance of a case of diphtheria in the person of a recruit who arrived at the depot on February 24, from rendezvous at Buffalo, N. Y., and said: "It is possible that this man may have come in contact with the disease in St. Louis, Mo., where, according to newspaper reports, a number of cases have occurred. This is the only case of the disease which has appeared here. The case is mild and has been isolated."

At Fort Wayne, Mich., in January, Surgeon H. McElderry reports: "One child, a daughter of an enlisted man, died of diphtheria. * * * The family was promptly quarantined and all necessary precautions taken to prevent the further spread of the disease. * * * This case is the first of the kind that has occurred at this post to my knowledge, and I have been unable as yet to account satisfactorily for the origin of the disease."

At Fort Randall, Dakota, in November, Assistant Surgeon W. C. Gorgas writes: "Three cases of diphtheria have occurred in the post this month, evidently due to importation. The post trader with his family of four children had been in Michigan; there had been diphtheria in the town which they visited: they left there on October 21, and reached this post on October 29. On the 25th one of the children was taken sick in Sioux City with a bad cold. I examined this child on November 12, and found its tonsils enlarged and congested, and am inclined to think that it had a mild attack of diphtheria. On the 6th of November two of the children were attacked with a disease which turned out to be diphtheria. On the 28th of November another child, who had been a constant companion of these children, was attacked. As soon as the disease was recognized, on the 11th these two families were isolated, and every attention given to the general condition of both families. The sick child was kept in one house, and the others sent to another house."

In a subsequent special report Assistant Surgeon Gorgas notes the deaths of the two children taken sick on November 6. The first case, that of a child two years old, terminated fatally on November 11. In the other case, that of a boy six years old, laryngeal stenosis developed on the night of November 13. A hurried tracheotomy was performed, and afforded complete relief. A tube was introduced into the trachea, and all went well until the night of the 15th, when alarming symptoms of tracheal stenosis developed. The tube was removed, and the trachea swabbed out. After the swabbing more or less tenacious matter was coughed up. On November 22 the tube was finally removed; the child could speak in a whisper; fluids passed through the wound to a slight extent. On December 5, the wound had healed and swallowing was normal, but there was some loss of power in the legs. Improvement continued; the child could play about in the house and go out during the day, but the legs remained in the same condition. On December 20 there was a troublesome cough, caused apparently by liquids getting into the trachea, and inability to expectorate. December 25 he had an attack of pulmonary œdema after getting a piece of cake in the trachea; the muscles of the neck became involved in the paralysis; the pulmonary œdema increased, and he died on the night of the 27th.

TYPHOID FEVER caused 174 admissions and 17 deaths; of these, 162 cases with 15 deaths occurred among the white troops, and 12 cases with 2 deaths among the colored, giving admission and death-rates for the former of 7.50 and .63, respectively, per 1,000 of mean strength, and for the latter, 5.36 and .82.

The admission rate for the whole Army for typhoid fever was 7.30, or nearly double that for 1886, which was 3.95, as well as nearly double the average for the previous decade, which was 4.18. But the deaths from this cause during the year were only in the proportion of .64 per 1,000 of mean strength, which is a ratio considerably smaller than that for 1886, or the average for the previous decade, the former being .84, and the latter .69, per 1,000 of mean strength.

It is worthy of note that the cavalry arm of the service, which, from 1883 to 1886 inclusive, showed a very much higher admission rate for typhoid fever than either the artillery or the infantry, during the year 1887 gave a rate of only 3.67 per 1,000 of mean strength, against 11.66 for the artillery and 9.86 for the infantry. The death-rate for the cavalry from this cause during the past year was .56 per 1,000 of mean strength, against .94 for 1886, and an average of 1.14 for the past 4 years. The infantry death-rate (.42) for 1887 was somewhat lower than that of the cavalry, but the artillery rate (.70) was much higher. The average duration of treatment for each case was 50 days for the cavalry, and 46 days for both the infantry and artillery.

In view of the facts just stated, it becomes evident that the causes which, from 1883 to 1886 inclusive, led to a prevalence of, and mortality from, typhoid fever in the cavalry much greater than in the other arms of the service, were not operative during the past year, 1887. Much of the improvement in this repect is undoubtedly due to the changes for the better which have been effected in the sanitary condition of the depot for cavalry recruits at Jefferson Barracks, Mo., from which place, in the past, many cases of typhoid fever have been carried, in the persons of recruits, to distant posts, there to become the sources of infection for others, especially in the cavalry arm.

In 105 cases, or 60 per cent. of the whole number, the ages of the men attacked by this disease were not over 25 years; in 50 others, or 29 per cent. of the whole, the ages were between 26 and 30; and in but 19 cases, or 11 per cent. of the whole, were the ages over 30. The admission rates per 1,000 men of the ages given were, for those not over 25, 14.63; 26 to 30, 7.10; over 30, 1.97. Dividing the ages into two groups only, the first being composed of men not over 30 years of age, of whom there was an average of 14,220 in service during the year, and the second of men over 30, whose number averaged 9,621, it appears that in the first group typhoid fever occurred in the proportion of 10.90 cases per 1,000 of mean strength of the group, and for the second in the proportion of 1.97 per 1,000. Of the 17 deaths, 15, or 88 per cent. of the whole number, were of men not over 30 years of age, and 2, or 12 per cent., over 30.

In 62 cases, or 36 per cent. of the whole, the patients had been in service less than one year; in 32, or 18 per cent., between 1 and 2 years; in 20, or 12 per cent., between 2 and 3 years; in 18, or 10 per cent., between 3 and 4 years; in 16, or 9 per cent., between 4 and 5 years; and in but

26 cases, or 15 per cent., had the patients been in service over 5 years. In other words, in 85 per cent. of all the cases of typhoid fever the persons attacked had been in service not over 5 years. In this connection it should be stated that 45 per cent. of the active strength of the Army had been in service over 5 years. Of the 17 deaths, 16, or 94 per cent., were of men in their first 5 years of service, and 1, or 6 per cent., over 5 years.

Of all the cases recorded as typhoid fever at 41 different military stations, 21 with 1 death were reported at Fort Monroe, Va., 8 with 3 deaths at Jefferson Barracks, Mo., 6 with no death at Fort Leavenworth, Kans., 7 with 2 deaths at Fort Robinson, Nebr., 30 with no death at Fort Laramie, Wyo., 6 with 1 death at Fort Hays, Kan., 6 with 1 death at Fort Lyon, Colo., 5 with no death at Fort Bliss, Tex., 6 with no death at Fort Douglas, Utah, 9 with no death at Camp Pilot Butte, Wyo., and 10 with 1 death at Fort Thomas, Ariz. At 30 other posts from 1 to 5 cases were recorded.

It will be seen from the foregoing statement that 51 cases, or 29 per cent. of the whole number, were reported to have occurred at two stations, Fort Monroe, Va., and Fort Laramie, Wyo. It is further noticeable that of these 51 cases only 1 proved fatal, which gives the exceedingly low death-rate of a little under 2 per cent. of the cases treated, the average for the Army for the past ten years being 18 per cent. The average duration of treatment in these cases was 46 days for each case at Fort Monroe, and 27 days at Fort Laramie, the former being only 1 day less than the average for the whole Army, but the latter being 20 days less.

Excluding the 51 cases reported at Fort Monroe and Fort Laramie, the remaining 123 cases, reported from 39 other stations, were attended with 13 per cent. of deaths, and the average duration of treatment was 52 days for each case.

These 123 cases would make the admission rate of the Army 5.16, and the death-rate .61, the former of these rates being still considerably higher than the corresponding rate for the previous year and the preceding decade, but the latter being lower than either.

At most of the posts at which typhoid fever prevailed unsanitary conditions sufficient to account for its spread were reported, but at very few of them was the origin of the infection fully ascertained.

At Watertown Arsenal, Mass., in September, Surgeon J. C. McKee reported a case of the virulent and unmanageable type of this disease, which rapidly proved fatal. The origin of this case he attributed to the entire want of drainage at the post, the soil having become saturated with excremental filth in consequence.

At David's Island, N. Y., in April, Surgeon J. V. D. Middleton stated that two cases of typhoid fever had occurred during the month, and that both had proved fatal. He remarked: "Extensive ulcerations were found in the intestines, and the immediate cause of death in one case was intestinal hæmorrhage. The overcrowded condition of the dormitories may have been the determining cause, although I believe these men brought the germs of the disease to the Island with them. Every precaution was taken to disinfect their dejections, clothing, and bedding. No other cases have occurred."

At Fort Monroe, Virginia, in September, Surgeon J. Brooke reported the existence of a very large number of cases of typhoid fever at that post,

and said: "One case occurred in June, 1 in July, 3 in August, and 9 thus far in this month. Most of them have been comparatively mild, and none were fatal. The disease has been confined absolutely to the enlisted men in the barracks. This building has two sources of water supply, one the general post supply, the other from two rain-water cisterns just behind the building. From preference the men have almost invariably drunk of the latter, and no others, except the families of the quartermaster's employés, some 11 in number, have used it for drinking purposes. All other persons drink from the general supply, or from separate cisterns. In view of these facts I recommended that the supply from the cisterns behind the barracks be cut off. This has been done, but sufficient time has not yet elapsed for a positive conclusion to be reached." One more case occurred in September, 2 in October, 2 in November, and 2 in December.

At Jefferson Barracks, Missouri, in February, Surgeon E. McClellan writes: "I have carefully considered the subject of typhoid fever at this depot, and am utterly unable to trace the cases which occur to any local cause, nor am I able to form any links in a chain of connection between cases. The cases seem to me to be absolutely isolated, and due either to the condition of the recruit prior to his arrival at the depot, or to his subsequent exposure to the disease beyond the limits of the military reservation. During the month of February there was a total of 926 enlisted men at the depot, inclusive of the ordnance detachment and general prisoners, who were exposed to similar local causes. Thirty-five cases of diarrhœa occurred in the whole command, with but a single case which presented any symptoms of enteric fever."

In October he adds: "The 4 cases of typhoid fever occurred in the persons of men who had been for some time at the depot; * * * three of these were admitted from A company, and one from B company. It is presumable, from the length of time that each recruit infected with typhoid had been at the depot, that they contracted the disease at, or in the vicinity of, the post. I consider it simply a coincidence that three of these cases came from one company. * * * It is simply impossible to follow recruits at the depot with the scrutiny that can be applied to soldiers in permanent companies and troops. The number of low resorts around the reservation, in Carondelet and St. Louis, which are frequented by these men, and the impossibility of preventing many of the recruits, who arrive from rendezvous in eastern cities, from visiting such resorts, permits the inference that it is equally as probable that the disease was contracted outside the limits of the reservation as that it owed its origin to sources of infection within these limits."

At Fort Leavenworth, Kansas, in November, 5 cases were reported; 1 of the patients was a colored recruit, recently arrived from Jefferson Barracks, Mo., and presumably infected before arrival at the post. No new cases occurred in December.

At Fort Assinniboine, Mont., in October, Assistant Surgeon L. A. LaGarde reported 2 cases. In November he remarked: "After careful investigation of the probable origin of the 2 typhoid fever cases from company H of the Twentieth Infantry, it is necessary to state that no reasonable conclusion can be offered. * * * It may be here remarked that the only 2 fatal

cases of typhoid fever in the history of the post have come from this set of barracks. Acting Assistant Surgeon F. J. Adams, who has been here since September, 1883, reports that, during his residence at the post, by far the greater number of cases has come from this set—the set now occupied by company H, of the Twentieth Infantry, and the band."

At Fort Hays, Kan., in his July report, Surgeon H. M. Cronkhite says: "Owing to a defective drain leading from the kitchen and wash-room * * * typhoid fever broke out in company A, Eighteenth Infantry. Up to the present time there have been 4 cases, one of which has already proved fatal, in that company. The drain was repaired, and the ground thoroughly disinfected, as soon as the fever appeared." Two more cases occurred after the date of this report.

At Fort Lyon, Colo., in July, 4 cases of fever with suspicious typhoid symptoms were reported. They were all from the same company, but a careful examination failed to detect the cause of the sickness.

At Fort Robinson, Nebr., in June, 1 death was reported. The disease was said to have been contracted at the recruiting depot at Jefferson Barracks, Mo.

At Fort Laramie, Wyo., in November, Assistant Surgeon L. Brechemin says; "The total number of cases treated to date of this report is 54, with 1 death. Thirty cases occurred in the command, and 24 among the civilians." He believed the great amount of sickness at this post was due to pollution of the water supply. One mild case, that of a child, was reported in December.

At Fort Bliss, Tex., in September, Assistant Surgeon S. G. Cowdrey, remarked: "Prevailing diseases of the post and vicinity are typhoid and severe remittent fevers. In the town of El Paso the fever is accounted for by the filth of the place, as the sewerage system is not completed yet; but I cannot account for the fevers in the post, unless they come from the filthy and scanty water supply."

At Camp Pilot Butte, Wyo., in August, Assistant Surgeon W. Stephenson stated that the 6 cases of typhoid fever that had occurred at the camp were caused by outside influences beyond control of the military authorities, and remarked: "Bitter Creek to the south, and China Town to the north, both being within 100 feet of the camp, are sources of filth diseases because of the indifference of their inhabitants to all sanitary measures in the disposition of excreta, etc. For several weeks during the hottest part of the summer Bitter Creek was a stagnant pool for over half a mile, for which space its banks are inhabited by miners, living in dug-outs, who throw all refuse into the creek. From the fact that the first cases of the fever were on this creek, that an enormous number of cases, in proportion to the population, as compared with the rest of the town, were there, and that the worst epidemic the town has ever known was coincident with the unusual damming up of the creek from dumping coal-slack into it below the town, I am of the opinion that Bitter Creek has been the principal factor in the production of the fever. There is no occasion to question the water supply, as it is brought from a large stream, Green River, where there is no fever. * * * The Chinese to the north of the camp have suffered somewhat from the fever, but not so much as their filthy habits would have led one to suppose."

At Fort Thomas, Ariz., in November, Assistant Surgeon E. R. Morris reported that the diseases most prevalent there were the malarial and typhoid fevers, and that, with regard to these, the record of 1887 was, on the whole, better than that of 1886. He says: "That there is a relatively large amount of sickness at Fort Thomas is apparent from the monthly reports of the medical department, but this circumstance is believed to be beyond the control of the health officer." A tabular statement, showing diseases that occurred among troops at this post during the year ending November 30, 1887, accompanies the report. The post surgeon adds: * * * "The summer climate is indeed singularly unpleasant. Malaise, lassitude, and depression of spirits, in subjects with impressionable nerves, are the rule. This depression is believed to be important as a predisposing cause of by far the most serious disease that is encountered here, viz., typhoid fever."

At Fort Bayard, N. Mex., in July, Assistant Surgeon W. D. Dietz reported that among the cases remaining in hospital from the previous month was one of typhoid fever. The patient was a recruit who had been stationed at Jefferson Barracks, Mo., for three months, and arrived at Fort Bayard on June 20. En route thither, on the 16th, he was first taken sick.

At San Diego Barracks, Cal., in June, a case appeared, the patient being the child of a non-commissioned officer. The origin of the disease was not clear. In July an enlisted man was taken sick with the fever. The post surgeon, Surgeon D. L. Huntington, reported that the case probably originated outside of the garrison, and said: "This affection, as well as typho-malarial fever and diarrhœa, is quite prevalent in the city of San Diego in the neighborhood of the barracks, and is, without doubt, due to want of proper sewerage and drainage." On the appearance of another case in December he remarked: "The cause of infection was undoubtedly outside of the garrison, as the fever continues to be very prevalent and fatal throughout the city, and is due to improper hygiene and unsanitary conditions."

Epidemic influenza was charged with 53 admissions, of which it is noticeable that the colored troops furnished only 2 cases, or a ratio of .89 per 1,000 of mean strength, against 51 cases, and an admission rate of 2.36, for the white troops. There were no deaths from this cause.

Measles caused 92 admissions during the year with 3 deaths, all of which were due to intercurrent diseases, double pneumonia in 2 cases, and heart failure in 1. In the tabular summaries which accompany this report these deaths are charged to their immediate causes.

The admission rate for measles was somewhat higher for the colored than for the white troops, being 4.46 for the former, and 3.80 for the latter. The deaths were all of white enlisted men. Forty-one of the cases, or 45 per cent. of the whole number, occurred among recruits at depots; 52, or 57 per cent., among men of less than one year's service; and 62, or 67 per cent., in men not over 25 years of age.

At Jefferson Barracks, Mo., where 21 of the cases and all of the deaths occurred, Surgeon E. McClellan, in February, reporting upon the outbreak of the disease, of which 17 cases had then appeared, said: "The epidemic originated in the arrival at the depot of 3 recruits, 1 from Philadelphia and 2 from Lexington, who were taken with the disease soon after their arrival. In consideration of the number of recruits at depot during the

month, the epidemic has been mild." In a special report in April he notes the admission of 2 more cases among the recruits, and says: "The majority of these cases were complicated with bronchitis, a large number with diarrhœa, and 4 cases with pneumonia; as sequelæ, 1 case of conjunctivitis and 1 case of pulmonary tuberculosis have occurred, while in still 1 other case, it is by no means certain that the incipient stage of phthisis pulmonalis is not developing. Among the 21 cases there were 3 deaths, the first of which was that of February 6, in the person of a member of the depot band. This man had been suffering, for some time prior to the outbreak of measles, with aphonia and dyspnœa, which had prevented the performance of duty. He passed safely through the stage of desquamation, but was greatly debilitated, requiring careful nourishment and stimulation. On February 20, when making my evening visit to the wards, I saw him sitting upright in his bed supported by pillows. As I walked toward his bed an attendant said, 'I helped him to sit up about half an hour ago, and he went to sleep.' I placed my hand upon him and found that he was dead. As the family claimed the remains no autopsy was made. The 2 other deaths occurred in the cases of February 28, and March 16. In both, the death was occasioned by pneumonia of both lungs, and in each case the complication occurred with the fading away of the eruption. * * * The subsidence of the epidemic among the enlisted men was followed by a mild epidemic among children at this depot and the powder depot, 11 cases having already occurred, in all of which convalescence is satisfactorily established."

In addition to the cases mentioned, the disease was quite prevalent during the year in the families of officers and enlisted men, and among other civilian attachés, at the different Army posts.

Mumps caused 68 admissions, of which 10 occurred among colored troops. There were no deaths. Thirty of the cases, or 44 per cent. of the whole number, were furnished by recruits at depots, their admission rate for this cause being 17.96 per 1,000 of mean strength, and that for the whole Army, 2.85.

Scarlet fever occurred in 2 cases, one at Jefferson Barracks, Mo., in the person of a colored recruit, and the other at Fort Maginnis, Mont., the patient being an enlisted man of a white cavalry regiment; both recovered. The disease was also prevalent during the year among the civilians with the commands at Fort D. A. Russell, Wyo., Fort Robinson, Nebr., Fort Hancock, Tex., Fort Marcy, N. Mex., Fort Bidwell, Cal., Fort Leavenworth, Kan., Fort Porter, N. Y., Fort Ontario, N. Y., Fort Columbus, N. Y., Fort Assinniboine, Mont., Fort Maginnis, Mont.

Small-pox caused but 2 admissions, or a rate of .08 per 1,000 of mean strength, against .13 for 1886 and an average of .25 for the previous decade. One case was of the modified form and occurred at Fort McHenry, Md., in the person of an enlisted man (white), who was at once isolated. No additional cases occurred at that post. The other case was that of a colored recruit at Jefferson Barracks, Mo., who had been received from the rendezvous in New York City but a short time before the appearance of the disease.

At Fort Marcy, N. Mex., in January, it was reported that there were cases in the adjoining town of Santa Fé; also at Fort Bayard, N. Mex., in February, that the disease was prevalent in the vicinity of the post, at Sil-

ver City. At Fort Canby, Wash., in September, the post surgeon reported that a case of modified small-pox had appeared at that post in the person of a member of the life-saving corps stationed there during the month. The patient probably contracted the disease while on a visit away from the post.

The disease was declared epidemic in the city of San Francisco, Cal., on December 29th, but no cases appeared at any of the posts in the vicinity.

With the exception of the case at Fort Canby, the civilian attachés of the Army were entirely free from the disease during the year.

CEREBRO-SPINAL FEVER was recorded in but 1 case, that of a white recruit at Jefferson Barracks, Mo., who died of this disease.

In addition to the cases mentioned above there were 127 admissions, with no deaths, for other diseases of this class, as follows: rötheln 27 (16 at Fort Monroe, Va.), quinsy 96, chicken-pox 3, and whooping-cough 1; all occurred among white troops, except 2 cases of chicken-pox, 37 of quinsy, and 1 of rötheln.

MALARIAL DISEASES.

The admissions for this class of diseases during the year numbered 2,446, the deaths 9, and the discharges 2, the ratios per 1,000 of mean strength being 102.60, .34, and .08, respectively, all of which, except the discharge rate, are lower than the corresponding rates for the previous year. In 1886 the admission rate was 116.71, the death-rate .31, and the discharge rate .19; for the previous decade, the admission rate was 202.77, and the death-rate .29.

The average duration of treatment for all cases reported during the year was 10.6 days for each; for white troops it was 10.5 days, and for colored 11.4.

The colored troops gave an admission rate (113.84) somewhat higher than that of the white troops (101.43), as well as higher rates of death, and constant non-effectiveness. The greater frequency of occurrence of malarial diseases among the colored troops, as compared with the white, is especially noticeable for the reason that the reverse has been the rule for many years, the annual admission rate of the white troops for these diseases from 1875 to 1885 inclusive averaging 206.82, and that of the colored 176.62, per 1,000 men of each race respectively. The death-rate of the colored troops from malarial diseases for 1887 (.41) was in excess of that of the white, and this is in accord with the record of previous years, the average from 1875 to 1885 having been .29 for the white, and .37 for the colored.

During the year 1887 the greatest disproportion between the two races in the rates of occurrence of these diseases was shown by the recruits at depots, the admission rate for the colored recruits being 319.02, and for the white 190.44, and the constant non-effective rate 18.65 for the colored, and 9.13 for the white.

Of the 2,446 recorded cases, 1068, or 44 per cent. of the whole number, occurred at ages not over 25 years; 714, or 29 per cent., from 26 to 30; and 664, or 27 per cent., over 30. The admission rates were, for those not over 30, 125.32; over 30, 69.02. The constant non-effective rates were, for those not over 30, 3.72; over 30, 7.41, per 1,000 men in each group of ages. Much higher rates were also shown in the first 5 years of service than in any sub-

sequent period, the admission and non-effective rates for those whose service did not exceed 5 years being 128.78 and 3.95, respectively, and for all others 70.24, and 1.80, per 1,000 of each group.

This class of diseases was most prevalent in the region of Central Timbered Plains and Hills, in which 427 cases, with 3 deaths, were recorded during the year, the ratios per 1,000 of mean strength being 326.20 for admissions, and 2.29 for deaths. This region also gave the highest constant non-effective rate, 13.59. The region of the Northern Lakes showed the lowest admission rate, 43.91, and also the lowest non-effective rate, 1.08, except the Appalachian Mountain region which gave a non-effective rate of .36, but as this was based upon the occurrence of only 4 cases in a mean strength of 68 men it is not considered in making this comparison. The regions showing the greatest and least prevalence of these diseases during the past year occupied the same relative positions in 1886.

The posts at which malarial diseases were of most frequent occurrence during the year are as follows, arranged in the order of their respective rates of admission: Little Rock Barracks, Ark., 567.31; Washington Barracks, D. C., 550.56; Fort Sill, Ind. T., 539.01; Jefferson Barracks, Mo., 402.10; Fort Brown, Tex., 348.48; St. Francis Barracks, Fla., 343.75; Post of San Antonio, Tex., 312.00; Indianapolis Arsenal, Ind., 296.30. The posts giving the highest ratios of constant non-effectiveness for these diseases are as follows, in the order of their several rates: Jefferson Barracks, Mo., 22.29; Fort Gibson, Ind. T., 15.37; Fort Thomas, Ariz., 14.27; Fort Sill, Ind. T., 11.72; Fort Ringgold, Tex., 10.73; Washington Barracks, D. C., 9.26; St. Francis Barracks, Fla., 8.10.

Jefferson Barracks, Mo., which in 1886 gave for malarial diseases an admission rate of 818.71, the highest of the Army, and from 1883 to 1886, inclusive, an average annual rate of 704.56 per 1,000 of mean strength, in 1887 showed a marked improvement over previous years, its admission rate having fallen to 402.10, which is 43 per cent. lower than the average for the previous 4 years.

INTERMITTENT FEVER was recorded as the cause of admission in 1,944 cases, or 79 per cent. of all admissions for malarial diseases; there were no deaths or discharges. The admission rate of the colored troops was 92.41, of the white 80.41, and of the whole Army 81.54, per 1,000 of mean strength, against 86.59 for 1886, and 177.70 for the previous decade. The average duration of treatment was 7.6 days for each case.

The posts giving the highest admission rates for this disease were: Washington Barracks, D. C., 550.56; Little Rock Barracks, Ark., 500.00; Fort Sill, Ind. T., 439.72; Jefferson Barracks, Mo., 357.23; Fort Brown, Tex., 340.91; San Antonio (post), Tex., 234.67. The posts giving the highest non-effective rates were: Jefferson Barracks, Mo., 14.36; Washington Barracks, D. C., 8.23; Fort Sill, Ind. T., 7.36; Fort Brown, Tex., 6.89; Fort Grant, Ariz., 6.04; Camp Pena Colorado, Tex., 5.29; Little Rock Barracks, Ark., 5.27.

Five cases of PERNICIOUS INTERMITTENT FEVER, with no deaths, were reported, 3 at Little Rock Barracks, Ark., and 1 each at Forts Schuyler, N. Y., and Selden, N. Mex.

REMITTENT FEVER caused 337 admissions, 9 deaths, and no discharges, or 14 per cent. of all admissions charged to malarial diseases, and all of the

deaths. The colored troops gave a lower admission rate for remittent fever (12.95)than the white (14.26), but their death-rate was higher, being .41 against .33 for the white. The rate for the whole Army was .34; for 1886 it was .23, and for the previous decade .22.

The posts from which the greatest number of cases of remittent fever were reported during the year are Fort Leavenworth, Kans., which furnished 29 cases; Jefferson Barracks, Mo., 27; Fort Thomas, Ariz., 25; St. Francis Barracks, Fla., 15; Fort Sill, Ind. T., 15; Fort D. A. Russell, Wyo., 14. Of the deaths 3 occurred at Jefferson Barracks, Mo.; 2 at Fort McIntosh, Tex.; and 1 each at Forts Brown, Tex., Sill, Ind. T., Myer, Va., and Walla Walla, Wash. The average duration of treatment was 26.9 days for each case of remittent fever.

CONTINUED MALARIAL FEVER was recorded in 20 cases, and MALARIAL CACHEXIA in 16; there were no deaths from either of these causes, and but 2 discharges, the total for the group, both of which were for malarial cachexia.

TYPHO-MALARIAL FEVER (So-Called).

This diagnosis was given in 15 cases, of which 4 proved fatal, the admission rate being .63 per 1,000 of mean strength, against 1.70 for 1886, and 2.78 for the previous decade. The colored troops furnished 2 of the cases and 1 death. No reports of autopsies were received, and no statement was made in any of the fatal cases that the pathological lesions had been sought for *post mortem*. Ten of the persons attacked were under 30 years of age, and 12 were in their first five years of service.

The average duration of treatment for all cases recorded as typho-malarial fever was 54 days, 7 days longer than the average treatment of typhoid fever for the whole Army, but only 2 days longer than the average for the Army excluding the 30 cases reported as typhoid fever at Fort Laramie, the average duration of which was only 20 days.

DIARRHŒAL DISEASES.

The total number of cases recorded under this head was 3,307, the deaths 8, and the discharges 11. The ratio of admissions per 1,000 of mean strength was 138.71, of deaths .30, and of discharges .42, all of which differ but little from the corresponding ratios for the previous year, which were 146.36, .31, and .19, respectively. For the previous decade the admission rate was 215.73, and the death-rate .37.

The admission rate of the white troops (139.67) was higher than that of the colored (129.46); that of the enlisted men of engineers (544.24) was greatly in excess of that shown by enlisted men in any other branch of the service, and chargeable, undoubtedly, to the unsanitary conditions prevailing at the engineer's depot at Willets Point, N. Y.; that of colored recruits at depots (306.75) was higher than that of white recruits (166.55); and that of the first year of service (229.09) was higher than the average for all over 1 year (122.33).

The constant non-effective rate for the whole Army was 2.06 per 1,000 of mean strength; for recruits at depots 3.57 (white 3.23, colored 6.66);

first year of service 3.51; all over 1 year 1.81; and for the enlisted men of engineers 6.90, showing that the disproportionate frequency of occurrence of diarrhœal diseases among these men was accompanied by a corresponding constant impairment of force occasioned thereby.

Excluding the Appalachian Mountain region with its admission rate of 279.41, for reasons heretofore stated, this class of diseases was most prevalent in the region of Central Timbered Plains and Hills, in which 298 cases were recorded during the year with no deaths, the ratio of admissions per 1,000 of mean strength being 227.65. This region also gave the highest constant non-effective rate, 4.80. The region of the Pacific Coast gave the lowest admission rate, and the Northern Lakes the lowest non-effective rate. The relative frequency of occurrence of these diseases was substantially the same in 1886 as during the past year; and the coincidence between malarial and diarrhœal diseases in the region of their greatest prevalence for both these years is also noticeable.

The posts at which diarrhœal diseases were most prevalent during the year, arranged in the order of their several admission rates, are as follows: Fort Myer, Va., 562.51; Willets Point, N. Y., 513.16; Fort Sidney, Nebr., 422.68; Watervliet Arsenal, N. Y., 375.00; Fort Riley, Kans., 342.68; Washington Barracks, D. C., 333.33; Jefferson Barracks, Mo., 325.87; San Carlos, Ariz., 321.10; Rock Island Arsenal, Ill., 310.34.

The highest non-effective rates were shown as follows: Fort Riley, Kans., 11.16; Fort McDowell, Ariz., 8.27; Jefferson Barracks, Mo., 7.52; Willets Point, N. Y., 6.65; Fort Grant, Ariz., 6.49; Mount Vernon Barracks, Ala., 6.42; Fort Davis, Tex., 6.32.

As in the case of malarial diseases, Jefferson Barracks, Mo., shows a decided change for the better in respect of the occurrence of diarrhœal diseases, its admission rate for the latter in 1886 being 656.92 per 1,000 of mean strength, considerably higher than that of any other military post, and its average annual rate from 1883 to 1886 being 620.59; while for 1887 its admission rate was 325.87, or 47 per cent. less than the average for the past four years.

DIARRHŒA caused 2,897 admissions, or 88 per cent. of the total for its class, 2 deaths, and 8 discharges, the rates being 121.51, .08, and .30, per 1,000 of mean strength. For 1886 the admission and death-rates were 129.69, and .08, and for the previous decade 190.56, and .11. The admission rate of the colored troops for the past year was 116.96, and of the white 121.98.

Of the acute form 2,838 cases were recorded, with 1 death, and of the chronic 59 cases, and 1 death. The average duration of treatment was 3.9 days for each case of the acute disease, and 30.2 for the chronic.

DYSENTERY was reported in 217 cases, of which 4 were fatal, and 3 necessitated discharges from the service. The ratio of admissions was 9.10, deaths .15, and discharges .11. For the previous year the admission and death-rates for this disease were 10.18, and .23, per 1,000 of mean strength, respectively, and for the preceding decade 18.79, and .25. The admission rate of the white troops for the past year was 9.12, and of the colored 8.93.

There were 180 cases of the acute disease with 4 deaths and no discharges, and 37 cases of the chronic form, with no deaths and 3 discharges.

The average duration of treatment was 14.4 days for the acute form, 45.6 for the chronic, and 19.7 for all cases.

The posts reporting the greatest number of admissions for dysentery during the year were Fort Riley, Kans., 21 cases; Fort Clark, Tex., 19; Fort Reno, Ind. T., 12; Fort Supply, Ind. T., 11; San Carlos, Ariz., 10; Willets Point, N. Y., 9; Fort Davis, Tex., 9; Fort Grant, Ariz., 7; and Fort Lowell, Ariz., 6.

VENEREAL DISEASES.

For this order of diseases there were 1,773 admissions during the year, no deaths, and 104 discharges, giving ratios of 74.37 for the first, and 3.94 for the last, per 1,000 of mean strength, against 71.91 and 3.52 for 1886, and an admission rate of 90.32 for the previous decade. The aggregate loss of time from these causes was 44,575 days, and the constant non-effective rate was 5.12 per 1,000 of mean strength; this rate for 1886 was 4.83.

The average duration of treatment was 25 days for each case. The colored troops gave an admission rate for venereal diseases (95.98) which was higher than that of the white (72.13), and they also suffered a greater proportionate impairment of force therefrom, the constant non-effective rates of the two races being, colored 6.92, white 4.94, per 1,000 of mean strength. Recruits at depots gave the highest admission rate for these diseases, 182.63; the cavalry stood second with a rate of 91.02; engineers third, 78.77; artillery fourth, 64.13; and the infantry fifth, 60.92. Of the various nativities represented in the Army, natives of the United States gave the highest admission rate, 85,88; that of the Irish was 55.91; of the Germans, 54.85.

The posts showing the highest admission rates for venereal diseases are as follows, in the order of the relative frequency of occurrence of these diseases: Columbus Barracks, Ohio, 388.47; Fort Grant, Ariz., 276.38; Fort Lowell, Ariz., 251.75; Fort Gaston, Cal., 222.23. The lowest of these rates is about three times the average for the whole Army.

GONORRHŒA AND RESULTS caused 775 admissions, or 44 per cent. of the total for venereal diseases, and 7 discharges; SYPHILIS, 548 admissions, or 31 per cent., and 95 discharges; CHANCROID, 210 admissions, or 12 per cent., and 1 discharge.

The colored troops furnished 11 of the discharges for syphilis, and none for the other diseases mentioned.

The average duration of treatment for gonorrhœa was 20 days—21 for the white, and 16 for the colored troops; syphilis 33 days—white 33, colored 30; chancroid 22 days—white 20, colored 31.

DIETIC DISEASES.

ALCOHOLISM AND ITS RESULTS.—Under this head have been grouped all cases taken upon sick report, in which the disability, whether slight or severe, acute or chronic, was directly due to the ingestion of alcohol in some form. But as was stated in the last annual report, the figures given do not by any means represent the total impairment of force attributable to this cause, but only such portion of it as was brought directly to the attention of medical officers, and necessitated their excusing men from some portion of their military duty.

The aggregate of the admissions charged to alcoholism was 1,104, or 98 per cent. of the total for the dietic group of diseases, the deaths 4, and the discharges 4, giving ratios of 46.31, .15, and .15, respectively, per 1,000 of mean strength. These rates for 1886 were 47.09, .04, and .08, and the admission and death-rates for the previous decade 61.72, and .20.

The remarkably low admission rate, which the colored troops have always given for disabilities resulting from the use of intoxicants, continues to be a noticeable feature of the reports for the past year, during which there occurred but 5 admissions of colored soldiers for causes of this nature, or a rate of 2.23 per 1,000 of mean strength, while that of the white troops for the same period was 50.88. For the previous year the ratios were 4.67 for the colored, and 50.21 for the white; and for the 20 years from 1866 to 1885, inclusive, the average rates were 2.18 for the colored, and 54.04 for the white; all of which goes to show that, however much the colored soldier may be addicted to the use of alcohol in its various forms, the sick list of the Army is not appreciably affected thereby. In the case of the white soldier the reverse of this is true, as is shown by the fact that for more than 20 years an average of 2.7 per cent. of all the cases of disease and injury reported among the white troops has been directly due to alcoholism or its results.

Of the different nativities represented in the Army, the French gave the highest admission rate (188.68) during the year for these causes, and others in the following order: Irish, 98.62; Scotch, 78.00; English, 73.50; *United States* (white), 44.34; Canadian, 36.95; Swiss, 28.04; German, 27.43. Nearly the same relative positions were occupied in respect of the constant impairment of force.

The posts at which the greateat number of cases occurred during the year, arranged in the order of their several admission rates, are as follows: Fort Sidney, Nebr., 211.34; St. Francis Barracks, Fla., 197.92; Fort Gaston, Cal., 194.44; Willets Point, N. Y., 171.05; Jackson Barracks, La., 166.67; Fort Missoula, Mont., 156.63; Camp Del Rio, Tex., 152.54; Fort Ringgold, Tex., 142.86.

The posts at which the greatest impairment of force was suffered, are as follows, arranged in the order of the several ratios of constant non-effectiveness: Camp Pilot Butte, Wyo., 2.42; Fort Sidney, Nebr., 1.77; Fort Union, N. Mex., 1.75; St. Francis Barracks, Fla., 1.68; Fort Ringgold, Tex., 1.67; Willets Point, N. Y., 1.62.

CONSTITUTIONAL DISEASES.

The admissions for this group of diseases during the year numbered 1,018, the deaths 6, and the discharges 73, giving ratios of 42.70, .23, and 2.77, per 1,000 of mean strength, against 45.94, .46, and 2.41 for 1886. The average duration of treatment for all cases was 25.6 days; 26.8 for the white troops, and 19.5 for the colored.

The colored troops gave an admission rate of 75.45, a death-rate of .82, and a discharge rate of 4.53, all of which are considerably higher than the corresponding rates of the white troops, which were 39.30, .17, and 2.59, respectively. A similar disproportion between the two races is shown in the degree of impairment of force, the constant non-effective rate being 4.03 for the colored, and 2.88 for the white.

The frequency of occurrence of these diseases increased with age, and, to a less degree, with length of service, the admission rates being 34.67 for men not over 30, and 54.57 for all over 30; for the first five years of service 38.24, all over that 49.33.

The region of Eastern Timbered Plains and Hills gave the highest admission rate, 61.07, and (excluding the Appalachian), the Cordilleras the next, 55.02; the Northern Lakes gave the lowest, 19.88; and the Atlantic Coast the next, 28.88.

ACUTE ARTICULAR RHEUMATISM (RHEUMATIC FEVER) caused 92 admissions, 1 death and 4 discharges; of these, 20 of the cases occurred among the colored troops, the death, and all the discharges, among white troops. The immediate cause of death in the fatal case was acute pericarditis. The admission rate of the whole Army for this disease was 3.86 per 1,000 of mean strength, and the death-rate .04, against 3.73 and .08 for the previous year. The admission rate of the colored troops was 8.93, or more than double that of the white, which was 3.33. The average duration of treatment was 38.6 days; 42.2 for the white troops, and 25.5 for the colored.

Excluding the Appalachian Mountain region, which furnished 1 case in a mean strength of 68 men, the region of Central Timbered Plains and Hills showed the greatest prevalence of acute rheumatism, furnishing 17 cases, or an admission rate of 12.99 per 1,000 of mean strength. The southern group of posts in the region of the Great Plains came next with 12 cases and an admission rate of 6.90. No case was reported in the region of the Great Lakes, and but 1 in that of the Pacific Coast.

CHRONIC ARTICULAR RHEUMATISM was recorded as the cause of admission in 841 cases, with no deaths and 55 discharges. The ratio of admissions was 35.27; for the previous year it was 38.01.

The colored troops furnished 130 of the cases and 6 of the discharges, giving an admission rate of 58.04 per 1,000 of mean strength, against 32.91 for the white troops. The ratio of discharges was about the same for both races, being 2.05 for the white, and 2.47 for the colored; for the whole Army it was 2.09. The duration of treatment averaged 23.6 days for each case; 24.7 for the white troops, and 17.4 for the colored.

This disease was most prevalent in the northern group of posts in the region of the Cordilleras, and in the region of Eastern Timbered Plains and Hills, their respective admission rates being 59.49 and 54.53, per 1,000 of mean strength. The region of the Gulf Coast stood third with a rate of 50.00. The northern group of posts in the region of the Prairies gave the lowest rate, 11.12, and the Central Timbered Plains and Hills the next, 15.28.

PARASITIC DISEASES.

Of this group of diseases 78 cases, with no deaths or discharges, were reported, and it is noticeable that all the cases occurred among white troops. There were 32 admissions for SCABIES, 19 of which occurred among recruits at depots, and 42 for TÆNIA. Of the latter, 21 occurred in the region of the Great Plains, and 10 in the region of the Prairies. Fort Clark, Tex., furnished 7 cases, and Fort McIntosh, Tex., 4. No other posts reported more than 2 cases. The average duration of treatment for scabies was 5 days, and for tænia 11 days, for each case.

DISEASES OF THE NERVOUS SYSTEM.

Of this group EPILEPSY caused 52 admissions, with no deaths, and 25 discharges; INSANITY AND MENTAL DEBILITY, 50 admissions, 2 deaths, and 44 discharges; and HEADACHE and NEURALGIA 1,356 admissions, no deaths, and 12 discharges. For insanity and mental debility the colored troops gave a lower admission rate (1.34) than that of the white (2.18); for epilepsy the rates were about the same (2.23 for the former and 2.18 for the latter); but for headache and neuralgia the rate of the colored troops (80.80) was much higher than that of the white (54.40). In 19 of the discharges for epilepsy it was noted that the disease originated prior to enlistment.

For all diseases of the nervous system the admission rate of the colored troops was 91.52, of the white 66.43, and of the whole Army 68.79. The total number of cases was 1,640, of deaths 17, and of discharges 111. For the previous year the total admission rate was 75.60, the death-rate .61, and the discharge rate 3.30; for the preceding decade the admission and death-rates were 116.46 and .59.

This group of diseases was most prevalent in the middle and northern groups of posts in the region of the Great Plains, and in the middle group of the Cordilleras, the admission rate being 77.95, 87.13, and 95.59, per 1,000 of mean strength in each group respectively. The frequency of occurrence of cases of neuralgia in these groups is especially noticeable, their admission rates for this disease being 38.42, 41.13, and 44.55, all of which are considerably higher than the average for the whole army, which was 32.09.

DISEASES OF THE RESPIRATORY SYSTEM.

There were charged to this class of diseases during the year 2,735 admissions, 42 deaths, and 73 discharges, the ratios per 1,000 of mean strength being 114.72, 1.59, and 2.77, respectively. In 1886 the ratio of admissions was 142.33, of deaths 1.30, and of discharges 2.57; for the previous decade the admission and death-rates were 210.29 and 1.05, respectively.

The average duration of treatment of all cases reported during the year was 10.8 days; it was the same for both the white and colored troops.

The colored troops gave an admission rate of 154.46, a death-rate of 3.29, and a discharge rate of 3.71, all of which were considerably higher than the corresponding rates of the white troops, which were 110.60, 1.42, and 2.67, respectively. About the same disproportion was shown in the degree of impairment of force, the constant non-effective rates being 4.53 for the colored and 3.28 for the white, per 1,000 of mean strength.

The cavalry gave an admission rate of 100.81, the artillery 119.70, the infantry 121.45, and the engineers 319.47. Age, length of service, and nativity do not appear to have influenced the prevalence of these diseases to any noticeable extent.

Diseases of the respiratory system were most prevalent during the year in the region of Eastern Timbered Plains and Hills, in which 174 cases were recorded, with 3 deaths, the ratios being 189.75 and 3.27, per 1,000 of mean strength. The region of Central Timbered Plains and Hills gave the highest constant non-effective rate, 4.97. The region of the Gulf Coast showed the lowest admission rate, 66.67, and the Northern Lakes the lowest non-effective rate, 1.75 (excluding the Appalachian Mountain region).

The death-rate was highest, 5.35, in the region of Central Timbered Plains and Hills. No deaths from diseases of the respiratory system were reported in the region of the Gulf Coast, and in the regions of the Pacific Coast, Northern Lakes, and Atlantic Coast the death-rates were only .62, .83, and .88, respectively.

Bronchitis was recorded as the cause of admission in 1,643 cases, or 60 per cent. of all admissions for diseases of the respiratory system, and as the cause of 1 death and 15 discharges. The ratio of admissions was 68.91, and of deaths .04, against 45.82 and .08 for 1886, and an admission rate of 64.77 and a death-rate of .13 for the previous decade. The admission rate of the colored troops was 87.50 per 1,000 of mean strength, and of the white troops 66.99. The average duration of treatment was 7.7 days for each case, 7.7 for the white and 7.6 for the colored soldier.

The region of Eastern Timbered Plains and Hills gave the highest admission rate for this disease, 118.87, and the Atlantic Coast the next, 103.28; the Gulf Coast gave the lowest, 13.33, and the Northern Lakes the next, 52.20.

The posts showing the highest admission rates for bronchitis during the year were Willets Point, N. Y., 336.84; Fort Sidney, Nebr., 293.81; San Diego Barracks, Cal., 274.51; Kennebec Arsenal, Me., 250.00; Fort McHenry, Md., 230.77; Fort Selden, N. Mex., 209.30. The highest non-effective rates were: Fort McHenry, Md., 8.99; Fort McKinney, Wyo., 6.22; Fort Sherman, Wyo., 5.03; Willets Point, N. Y., 4.69; San Diego Barracks, Cal., 3.87; Fort Keogh, Mont., 3.86; Fort Lewis, Colo., 3.50; Fort Sully, Dak., 3.07; Fort Selden, N. Mex., 3.06.

Pulmonary phthisis caused 81 admissions, 13 deaths, and 48 discharges. The admission rate of the colored troops was 6.25 per 1,000 of mean strength, of the white 3.10, and of the whole Army 3.40; the death-rates were, white .46, colored .82, whole Army, .49; the discharge rates, white 1.71, colored 2.88, whole Army 1.82; the average duration of treatment was 71.4 days for the white, 83.9 for the colored, and 73.5 for all cases. For the previous year the ratio of admissions for the Army was 3.52 (white 3.64, colored 2.33); of deaths .50 (white .55, colored .00); of discharges 2.18 (white 2.19, colored 2.12). For the preceding decade the admission rate was 3.77 (white 3.77, colored 3.83); and the death-rate .63 (white .58, colored 1.09).

The region of the Gulf Coast gave the highest admission rate for this disease (10.00), and, except the Appalachian region in which no cases were reported, the region of the Prairies gave the lowest (1.48). The posts from which the greatest number of cases were reported were: Fort Meade, Dak., 9; Jefferson Barracks, Mo., 5; Fort Lewis, Colo., 4; West Point, N. Y., 3; Fort Barrancas, Fla., 3.

Pneumonia was charged with 99 cases, of which 26, or 26 per cent., proved fatal; there were no discharges. The admission rate of the colored troops was 5.80, of the white 3.98, and of the whole Army 4.15, per 1,000 of mean strength. The death-rates were, colored 2.06, white .88, whole Army .99. The average duration of treatment was 36.9 days for the white, 26.1 for the colored, and 35.5 for all cases. During the previous year the admission and death-rates of the Army for this disease were 2.97, and .61; for the preceding decade, 4.76, and .80.

Excluding the Appalachian region, the Central Timbered Plains and Hills gave the highest admission rate, 17.57, and the Eastern Timbered Plains and Hills the next, 6.54; the Gulf Coast the lowest, 0, and the Northern Lakes the next, .83. Jefferson Barracks, Mo., furnished 16 cases with 5 deaths; David's Island, N. Y., 7, with no deaths; Fort Adams, R. I., 5, with no deaths; Fort Leavenworth, Kans., 5, with 1 death; Fort Lewis, Colo., 4, with 1 death.

Of the 99 cases of pneumonia reported during the year, the variety was not stated in 79; it was reported as croupous, or lobar, in 15, and catarrhal, or lobular, in 5. The right lung was the seat of the disease in 46 cases, the left in 28, and in 19 both lungs were involved; in 6 cases the location was not stated. The right lower lobe was affected in 23 cases, the right lower and middle lobes in 4, the entire right lung in 3, the left lower lobe in 17, and the entire left lung in 3; in 24 cases, 16 of the right side and 8 of the left, the lobe or lobes involved were not specified.

PLEURISY caused 59 admissions, with no deaths and 2 discharges. The left side was affected in 27 cases, the right in 24, both sides in 2, and in 6 cases the location of the disease was not stated.

The admission rate of the colored troops was 4.46, of the white 2.27, and of the whole Army 2.47, per 1,000 of mean strength.

The admission and death-rates for the previous year were 2.97 and .08; for the previous decade 4.82 and .03.

The discharge rate was .08 for the Army. The average duration of treatment was 20.2 days for all cases; 20.5 for the white, and 19.0 for the colored.

The Eastern Timbered Plains and Hills gave the highest admission rate, 4.36, the Central Timbered Plains and Hills the next, 3.82, and the Atlantic Coast the lowest, 1.31.

DISEASES OF THE CIRCULATORY SYSTEM.

Of the 179 admissions recorded under this head, ANGINA PECTORIS caused 11, with no deaths and 2 discharges; CARDIAC IRRITABILITY 70, no deaths, 6 discharges; VALVULAR DISEASE OF THE HEART 27, 8 deaths, 17 discharges; ANEURISM 6, no deaths, 4 discharges; and VARICOSE VEINS 19, no deaths, 4 discharges.

Very little difference existed between the white and colored troops in their rates of admission for this class of diseases, the former giving a rate of 7.64 per 1,000 of mean strength, and the latter 6.25. The average duration of treatment was 37.8 days for the white, 27 for the colored, and 36.9 for all cases.

The total ratio of admissions for diseases of the circulatory system during the year was 7.51, of deaths .64, and of discharges 1.71; for 1886 the rates were 8.74, .88, and 2.03; and for the previous decade the admission and death-rates were 7.60 and .61.

The region of the Pacific Coast gave the highest admission rate, 9.26, and the Prairies next, 9.15; the Gulf Coast gave the lowest (except the Appalachian), 3.33, and the Atlantic Coast next, 3.50.

DISEASES OF THE DIGESTIVE SYSTEM.

The admissions for this class of diseases numbered 3,597, the deaths 11, and the discharges 45, the ratios per 1,000 of mean strength being 150.87, .42, and 1.71; those for 1886 were 162.57, .46, and 1.72; for the previous decade the admission rate was 183.09, and the death-rate .59. The average duration of treatment was 7.8 days for each case, 8.1 for the white, and 5.4 for the colored. The colored troops gave higher admission and death-rates (178.57 and .82) than the white (148.00 and .38), but the discharge rate of the white troops (1.84) was higher than that of the colored (.41). These diseases were most prevalent among the engineers, who gave an admission rate of 277.90 per 1,000 of mean strength; recruits at depots came next, with a rate of 192.22; in the rates of other branches of the service, and among men of different ages, lengths of service and nativities, comparatively little disproportion existed.

The region of the Atlantic Coast gave the highest admission rate for diseases of the digestive system, 182.49, and the Central Timbered Plains and Hills the next, 181.05; the Gulf Coast the lowest, 106.67, and the Pacific Coast the next, 106.79. The Central Timbered Plains and Hills gave the highest non-effective rate, 4.35, and the Northern Lakes the lowest, 1.91.

DYSPEPSIA, COLIC and CONSTIPATION caused 1,281 admissions, and 3 discharges; TONSILLITIS, 859 admissions, and 1 discharge; PHARYNGITIS and SORE THROAT, 484 admissions; DISEASES OF THE LIVER AND GALL BLADDER, 95 admissions, 7 deaths, and 2 discharges; HERNIA, 58 admissions, and 28 discharges. For the last-mentioned cause it is noticeable that but one of the admissions and none of the discharges occurred among colored troops.

For the several orders of diseases not previously mentioned the number of cases, deaths, and discharges reported, and the ratio of admissions per 1,000 of mean strength, are as follows: SEPTIC DISEASES, 53 cases, 5 deaths (3 for erysipelas), and 1 discharge; admission rates, white 2.27, colored 1.79, total 2.22: ZOÖGENOUS DISEASES, 598 cases (539 vaccina), no deaths, or discharges; admission rates, white 24.95, colored 26.34, total 25.08: DEVELOPMENTAL DISEASES, 12 admissions to sick report, 1 death, and 22 discharges; admission rates, white .51, colored .45, total .50: DISEASES OF THE EYE, 543 cases (360 conjunctivitis), no deaths, and 30 discharges; admission rates, white 22.27, colored 27.68, total 22.78: DISEASES OF THE EAR, 155 cases, no deaths, and 12 discharges; admission rates, white 6.90, colored 2.68, total 6.50: DISEASES OF THE NOSE, 42 cases, no deaths, and 4 discharges; admission rates, white 1.76, colored 1.79, total 1.76: DISEASES OF THE LYMPHATIC SYSTEM AND DUCTLESS GLANDS, 158 cases (adenitis 143), no deaths, and 2 discharges; admission rates, white 6.39, colored 8.93, total 6.63: DISEASES OF THE GENITO-URINARY SYSTEM, 413 cases (acute and chronic nephritis 30, cystitis 76, urethral stricture 90, non-venereal orchitis 82), 6 deaths, and 42 discharges; admission rates, white 16.94, colored 20.98, total 17.32: DISEASES OF THE LOCOMOTOR SYSTEM, 1,237 cases (myalgia and muscular rheumatism 1,097), no deaths, and 58 discharges; admission rates, white 51.34, colored 57.14, total 51.88: DISEASES OF THE INTEGUMENTARY SYSTEM, 1,894 cases (abscesses, boils, carbuncles, ulcers, and whitlows, 1,256), no deaths, and 5 discharges; admission rates, white 81.85, colored 56.25, total 79.44: UN-

CLASSIFIED DISEASES, 349 cases (simple continued or ephemeral fever 216), 1 death, and 3 discharges; admission rates, white 15.42, colored 7.14, total 14.64.

INJURIES.

Out of a total of 29,727 admissions to sick report for all causes during the year, 5,839, or 19.6 per cent., of these admissions were charged to injuries of various kinds. The deaths numbered 65, and the discharges 66, or 30.4 and 9.2 per cent., respectively, of all deaths and discharges. The ratio of admissions, per 1,000 of mean strength, was 244.91; of constant non-effectiveness 8.68; of discharges 2.50; and of deaths 2.47. The average duration of treatment was 12.9 days for each case.

The admission rate of the Army for injuries was higher during the year 1887 than for the previous year, or the preceding decade, being 244.91 per 1,000 of mean strength, against 226 for 1886, and 243.64 for the decade. This rate is also very much higher than that of any foreign army whose health reports are accessible, but no deductions of value can be made from such a comparison, because of the wide differences which exist in the methods of recording and reporting admissions in the various armies. Deaths, and discharges for disability, however, are recorded with greater uniformity in all armies, and can be taken as a much more accurate measure of the losses sustained, although they only indicate approximately the degree of constant impairment of force due to any given cause.

Using, then, the ratios of death and discharge as a basis of comparison, it appears that the Army of the United States suffered, during the year 1887, a proportionate loss by deaths from injuries greater than that shown by the latest accessible reports of any of the foreign armies mentioned below, and a loss by discharges for disabilities originating in injuries greater than that of any of those armies except the Austrian. The ratios of deaths per 1,000 of mean strength were as follows: *United States*, 2.47; Austria, 1.94; Great Britain, 1.35; Prussia and Würtemberg, 1.18; Italy, .83; France, .78; Belgium, .74. The discharge rates for the same periods were: Austria, 2.94; *United States*, 2.50; Great Britain, 1.30; France, 1.26; Prussia and Würtemberg, .65; Belgium, .34; Italy, .21. The very low discharge rates of the Belgian and Italian armies are mainly due to the fact that in these armies it is customary to send to their homes, on indefinite furlough, large numbers of disabled men, who, in other armies, would be entirely discharged from the service.

Injuries were of much more frequent occurrence, proportionately, in the cavalry arm of the service than in either the infantry or artillery, the rates of the three arms being, respectively, 324, 236, and 221, per 1,000 of mean strength. The degree of impairment of force due to these causes was also greater in the cavalry than in either of the other arms, the number of men constantly non-effective on account of injuries averaging, per 1,000 of mean strength, 11.89 for the cavalry, 8.42 for the infantry, and 7.65 for the artillery.

Of all the admissions for injury, by far the largest part was caused by contusions, sprains, and muscular strains, 3,655 cases of this nature alone having been reported during the year; but that these cases were comparatively unimportant is shown by the fact that, although they amounted to

63 per cent. of all cases classified as injuries, they were only chargeable with 47 per cent. of the total impairment of force attributable thereto, with none of the deaths, and with but 11 per cent. of the discharges.

FROST-BITE was recorded 107 times, with no deaths and 1 discharge. Two deaths from GENERAL FREEZING occurred, 1 at Fort Sisseton, Dak., and the other at Fort Du Chesne, Utah. HEAT-STROKE caused 45 admissions without death or discharge. For ABRASIONS, BLISTERS, BURNS AND SCALDS there were 348 admissions with 1 death and 2 discharges.

FRACTURES, not gunshot, gave a total of 159 cases, 1 death and 11 discharges; and DISLOCATIONS, 56 cases, no deaths and 2 discharges. INCISED, LACERATED, CONTUSED, AND PUNCTURED WOUNDS caused 1,175 admissions, 2 deaths and 3 discharges.

SHOT-WOUNDS:—The admissions to sick report during the year for injuries of this character numbered 110, with 7 deaths and 14 discharges. In addition there were 19 cases in which death occurred instantaneously, or so soon after the receipt of the injury that they were not taken upon sick report as cases treated. The whole number of casualties of this class, therefore, was 129, of which 3, with 2 deaths, occurred in action (with hostile Indians); 1, not fatal, was caused by the premature discharge of a cannon while firing a salute; 21, with no deaths, by accidents connected with the reloading of cartridges; 20, with 2 deaths, by accidents at target practice; 8, with no deaths, by accidents while hunting; 15, with no deaths, by other accidents; 25, with 8 deaths, were caused by personal encounters; in 16 cases, with 14 deaths, the wounds were self-inflicted with suicidal intent; in 19 cases, with no deaths, they were self-inflicted accidentally; and in 1 case, not fatal, the wound was self-inflicted by a malingerer.

Sixteen deaths by DROWNING were reported. Of these 1 was suicidal; in 7 cases the cause was not ascertained; the remainder were all due to accidents, occurring while fishing in 2 instances, bathing 3, and boating 3.

For injuries not specially mentioned above there were 184 admissions, 14 deaths and 26 discharges. Of the deaths, 4 were caused by POISONING, 1 by SUFFOCATION, 3 by CONCUSSION OF THE BRAIN, and 6 by CRUSHING or other GENERAL INJURIES.

The SUICIDES in the Army during the year numbered 19, giving a ratio of .72 per 1,000 of mean strength. Of the deaths from this cause 12 occurred in the infantry arm of the service, 6 in the cavalry, and 1 in the artillery. Only 1 case was that of an officer, a lieutenant of infantry.

The suicide rates for the various armies, whose reports are accessible, are as follows: Austria, 1.49; Prussia and Würtemberg (enlisted men only), .79; *United States*, .72; Great Britain (enlisted men only), .44; Italy, .42; France, .41; Belgium, .38.

Drowning was the mode of death selected in 1 instance, poisoning in 2, cutting the throat in 1, severing the radial arteries in 1, and the use of fire-arms in 14. Morbid despondency was assigned as the cause in 2 cases, jealousy 2, suicidal mania 1, losses by gambling 2, excessive drinking 10, and in 2 cases no cause could be ascertained.

The nativities were given as *United States* 8 (1 colored), English 2, Canadian 1, Polish 1, Swiss 1, German 2, Irish 3, and 1 not given.

The ages were twenty-five years in 1 case, twenty-seven in 2, twenty-eight in 1, thirty in 1, thirty-one in 3, thirty-five in 2, thirty-eight in 2,

forty in 2, forty-one in 1, forty-four in 1, and in 3 cases the ages were not stated.

The month showing the greatest number of suicides (6) was November. Three occurred in February, 2 each in January, March, April, August, and September, and none in the remaining months of the year. Three cases were reported at Fort Walla Walla, Wash., and 2 each at Fort Wayne, Mich., Fort Leavenworth, Kans., and Fort Clark, Tex.; no other posts showed more than 1 case each.

In addition to the foregoing there were 2 attempted suicides without fatal results. One of these also occurred at Fort Walla Walla, making 4 suicidal attempts with 3 deaths at that post during the year; the other was reported at Fort Sill, Ind. T.

SURGICAL OPERATIONS.

There were 164 surgical operations reported by medical officers during the year; 81 of these were necessitated by injuries, and 83 by various surgical diseases. Antiseptics were used after operations in 70 cases, 15 of which were for shot wounds.

The following table shows the number, character, and results of the principal surgical operations performed during the year:

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Removal of tumors		**19**			
Sebaceous		7	7		Scalp, 3; face, 1; neck, 3.
Fibroma		2	2		Thigh; face.
Lipoma		4	4		Face, 1; neck, 1; side, 2.
Chondroma		1	1		Face.
Epithelioma		1	1		Toe.
Bursal		1	1		Patella.
Unclassified		3	3		Thigh; wrist; thumb.
Removal of foreign bodies		**5**			
Bullet and shot	Shot wounds	4	4		Flesh-wounds, 2; fractures, 2.
Fragments of wood	Lacerations	1	1		Flesh-wound, thigh.
Opening of abscesses		**4**			
Perityphlitic	Perityphlitis	1	1		Incision, drainage.
Peri-rectal		1	1		Incision.
Syphilitic	Syphilis	1	1		Incision, drainage.
Traumatic	Compound fracture	1	1		Incision.
Operations on the eye		**4**			
For entropion		1	1		
For pterygium		1	1		Ligation.
Excision of the eyeball	Laceration	1	1		Rupture of eyeball.
Iridectomy	Cataract	1	1		Iritis.
Operations on the mouth		**1**			
Removal of tonsils	Tonsillitis	1	1		
Operations on arteries		**2**			
Ligation	Lacerated wound	1	1		Radial artery.
Compression	Incised wound	1	1		Branch of femoral.
Operations on veins		**3**			
Ligation	Shot wound; incised wound.	2	1	1	Popliteal; jugular.
For varicocele		1	1		Henry's operation.
Operations on respiratory organs.		**3**			
Tracheotomy	Diphtheria; laryngitis	2		2	Survived 44 days, 1; 1 day, 1.
Paracentesis of pleura	Pyothorax	1		1	

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Operations on digestive organs.		**20**			
For fistula in ano		6	6		Incision.
For hæmorrhoids		12	12		Ligation, 4; incision, 4; excision, 3; dilatation, 1.
For hernia		1	1		Inguinal.
Paracentesis abdominis	Hydro-peritoneum	*a*1			
Operations on urinary organs.		**13**			
Aspiration of bladder	Stricture of urethra	1	1		Retention of urine.
For stricture of urethra	Gonorrhœal, 5	11	11		Internal urethrotomy.
Nephrorraphy	Dislocation of kidney		1		
Operations on generative organs.		**8**			
For phimosis		6	6		Circumcision.
For hydrocele		2	2		Tapping.
Operations on bones		**9**			
Removal of portions of	Shot wound; necrosis; fracture.	3	3		Scapula, 1; metacarpal, 2.
For ununited fracture	Compound fracture	1	1		Tibia; wiring.
Excision	Shot wound, 3; necrosis, 1.	4	4		Shoulder, 1; ribs, 1; wrist, 1; knee, 1.
Elevation of depressed bone	Compound fracture	1	1		Parietal bone.
Operations on joints		**17**			
Reduction of dislocations		16	16		Shoulder, 9; elbow, 6; hip, 1.
Removal of loose bodies		1	1		Knee-joint.
Operations on limbs		**45**			
Amputations for injury					
Shoulder-joint	Traumatic aneurism	1	1		Secondary.
Arm	Shot wound, 1; compound fracture, 1.	2	1	1	Primary, 1; intermediate, 1.
Fore-arm	Shot wound, 1; compound fracture, 2.	*b*3	1	1	Primary.
Wrist-joint	Shot wound	1	1		Primary.
Hand, parts of	Shot wound; compound fracture: frost-bite.	4	4		Primary, 3; intermediate, 1.
Fingers	Shot wound, 6; injury, 12; frost-bite, 1.	19	19		Primary, 13; intermediate, 5; secondary, 1.
Thigh	Compound fracture	1	1		Intermediate.
Leg	Shot wound, 1; compound fracture, 1; frost-bite.	*c*7	5		Intermediate, 1; secondary, 6.
Foot, parts of	Frost-bite	1	1		Intermediate.
Toes	Compound fracture; frost-bite.	4	4		Primary, 1; intermediate, 1; secondary, 2.
Amputations for disease					
Fingers	Paronychia	2	2		
Operations on skin, etc		**11**			
Closure of wounds	Lacerated wound	1	1		Face.
Ingrowing toe-nails		10	10		
Aggregate		**164**	154	6	

a. One case not terminated. *b*. One double amputation. *c*. Two double amputations.

VACCINATIONS.

The total number of primary vaccinations reported during the year was 1,398, of which 661 were successful. The re-vaccinations numbered 8,404, with 2,099 successful results.

Of the primary vaccinations, 476 were done among recruits at depots, and 922 in the Army at large; 202 of the former, and 459 of the latter were successful.

Of the re-vaccinations 4,600 were at recruiting depots, and 3,804 in the Army at large; 893 of the former and 1,206 of the latter were successful.

Of the primary vaccinations 47.3 per cent. were successful, and of the re-vaccinations 25 per cent.

Bovine virus was used in 1,191 primary vaccinations, with 555 successful results, or a ratio of 46.6 per 100, and in 6,574 re-vaccinations, of which 1,757, or a ratio of 26.7 per 100, were successful.

Humanized virus was used in 207 primary vaccinations, with 106 successful results, or a ratio of 51.2 per 100, and in 1,830 re-vaccinations, of which 342, or a ratio of 18.7 per 100 were successful.

That the Army at large is very thoroughly protected by vaccination is shown by the fact that only 1 case of small-pox and 1 of varioloid were reported during the year, although the disease was unusually prevalent in various sections of the country, and a large portion of the force was constantly subjected to more than the ordinary risk of contagion by reason of being stationed in the vicinity of towns whose population is largely composed of Mexicans, among whom the disease is rarely entirely absent, and frequently is very prevalent.

COLORED TROOPS.

The colored troops in service during the year consisted of 2 regiments of infantry, 2 of cavalry, 7 ordnance sergeants, 3 quartermaster sergeants, and 165 unassigned recruits, making an aggregate of 2,240 men, as shown by reports of medical officers. Included in this number are only 3 commissioned officers, of whom 2 are regimental chaplains, and 1 a lieutenant of infantry.

The following table shows the regions in which colored troops were employed, and a comparison between them and the white troops serving in the same regions, and in the whole Army, as to mean strength, admissions to sick report, non-effectiveness, deaths, and discharges. For reasons previously given the mean strength shown by the returns of the Adjutant General has been used in calculating the death and discharge rates for the whole Army, but not for the several regions:

	Region of—							
	Atlantic Coast.		Northern Lakes.		Central Timbered Plains and Hills.		Prairies.	
	W.	C.	W.	C.	W.	C.	W.	C.
Mean strength	2,267	18	1,000	207	1,172	137	3,724	321
Admissions to sick report	3,159	28	958	119	2,222	323	4,951	484
ratios per 1,000	1,393.47	1,555.56	958.00	574.88	1,895.90	2,357.66	1,329.48	1,507.79
Men constantly non-effective	88.89	.85	27.06	3.99	89.18	14.33	166.89	15.89
ratios per 1,000	39.21	47.33	27.06	19.27	76.09	104.57	44.82	49.51
Deaths	17		10	1	18	5	18	4
ratios per 1,000	7.44		10.00	4.83	15.36	36.50	4.84	12.46
Discharges for disability	62		18	7	32	6	91	13
ratios per 1,000	27.13		18.00	33.82	27.30	43.80	24.44	40.50

	Region of—				Whole Army.			
	Great Plains.		Cordilleras.					
	W.	C.	W.	C.	W.	C.		
Mean strength	5,859	848	4,654	708	21,601	2,240		
Admissions to sick report	6,941	1,171	5,205	1,000	26,600	3,127		
ratios per 1,000	1,184.67	1,380.90	1,118.39	1,412.43	1,231.42	1,395.98		
Men constantly non-effective	234.30	29.45	180.69	37.67	907.08	103.20		
ratios per 1,000	39.99	34.74	38.83	53.21	41.99	46.07		
Deaths	44	6	44	10	188	26		
ratios per 1,000	7.51	7.08	9.45	14.12	7.85	10.71		
Discharges for disability	143	34	160	14	637	77		
ratios per 1,000	24.41	40.09	34.39	19.77	26.61	31.71		

Except in the regions of the Northern Lakes, the Prairies, the Great Plains, and the Cordilleras, in which most of the colored troops in service during the year were stationed, the mean strength of these troops was so small that any comparison based upon it would be of but little value; but in the regions named the force was larger, and the ratios given consequently are more reliable, than in other regions.

Using the degree of constant impairment of force as the standard of comparison, it appears that the colored troops suffered the least in the region of the Northern Lakes, and the most in the region of the Cordilleras, their non-effective rate in the former region being 19.27 per 1,000 of mean strength, or 8 per 1,000 lower than that of the white troops serving with them, and in the latter 53.21, or 14 per 1,000 higher than the white. In the region of the Prairies the colored troops gave a higher non-effective rate than the white, 49.51 against 44.82; in the region of the Great Plains the reverse was the case, the rate of the white troops being 39.99, and of the colored 34.74.

The colored troops gave the next to their highest, and their lowest, admission rates in the same regions in which they suffered the greatest and least impairment of force, but their ratio of admissions was higher than that of the white troops in all of the regions named except the Northern Lakes, where it was lowest, 574.88, or lower than that of the white by 383 per 1,000. Their admission rate in the region of the Prairies, where it was highest, was 1,507.79, or 178 per 1,000 higher than the white.

The regions showing the greatest and least degree of constant impairment of force among the colored troops, gave also the highest and lowest death-rates; the Cordilleras, 14.12, or 3 per 1,000 higher than the white; the Northern Lakes, 4.83, or 5 per 1,000 lower than the white. In the region of the Prairies the greatest disproportion between the death-rates of the two racee was shown, that of the colored being 12.46, and the white 4.84. For the Great Plains there was very little difference between them, the colored troops giving a rate of 7.08 and the white 7.51.

The ratio of discharges among colored troops was the lowest, 19.77, 14 per 1,000 lower than the white, in the region of the Cordilleras, where their rates of sickness and mortality were the highest; the discharge rate was highest, 40.50, 16 per 1,000 higher than the white, in the region of

the Prairies. For the Great Plains it was 40.09, 16 per 1,000 higher than the white, and for the Northern Lakes, 33.82, 16 per 1,000 higher than the white.

The distribution of the colored troops in service during the year was such as to materially facilitate the study of the influences exerted upon the health of these troops by different climatic conditions, more especially that of temperature, for, out of a total mean strength of 2,240 colored men in the Army, 2,083, or 93 per cent. of the whole number, were distributed over the extensive area comprising the four adjoining regions mentioned above. Of this area, which extends from the northern to the southern boundary of the country, three divisions may properly be made: the northern, which includes the region of Northern Lakes and the northern groups of posts in the regions of the Prairies, the Great Plains, and Cordilleras; the middle, which comprises the middle groups of posts in the three last-named regions; and the southern, which consists of the southern group of posts in the region of the Cordilleras. The coldest climate in the United States is to be found in the northern division of this area, and the hottest in the southern, while that of the middle division fairly represents the mean.

The mean strength of colored troops stationed in the northern division was 587, in the middle 941, and in the southern 555.

A comparison of the ratios of constant non-effectiveness of the colored troops serving in these divisions reveals the fact that these troops suffered a much greater degree of constant impairment of force in the hot climate of the southern division than in the colder climate of either the northern or middle divisions. The constant non-effective rates per 1,000 of mean strength were as follows, the rates of the white troops being added for the sake of comparison: Northern division, colored 38.16, white 37.44; middle, colored 34.96, white 40.58; southern, colored 57.12, white 42.18.

The admission and death-rates of the colored troops were also highest in the southern division, the former being 1,475.68 against 1,337.31 in the northern, and 1,243.36 in the middle, and the latter 14.41 against 10.22 in the northern, and 7.44 in the middle. The discharge rates of the colored troops were, northern 35.78, middle 41.45, southern 14.41.

From the foregoing statement it will be seen that the colored troops serving in the southern section of the country during the past year gave ratios of impairment of force by reason of sickness, and of mortality, higher than those of the white troops stationed with them, and higher than those of their own race in the colder northern regions. The statistics of the previous year, 1886, show that the same disproportions existed during that year.

In this connection it is of interest to note that the colored (black) troops of the British army stationed in hot countries compare even more unfavorably than the colored troops of our own Army with the white troops serving with them. As shown by the latest report received (1885), the troops of African descent in the British Army, all of whom were in service on the west coast of Africa and in the West Indies, gave a mean strength of 1,608, and the following ratios per 1,000 of mean strength, the ratios of the white troops, serving in the same localities (mean strength 911) being given also for the purpose of comparison: Ratio of admissions to hospital, colored 1,069.03, white 923.83; men constantly non-effective, colored 62.52, white

43.08; deaths, colored 14.92, white 9.79; discharges, colored 26.74, white 14.15.

The relative prevalence of various disabilities among white and colored troops has been more fully considered under the head of special causes of admission to sick report, but, for convenience of reference, the following table showing the principal causes of disability, in the rates of occurrence of which a notable disparity existed between the two races during the year, is here inserted:

ADMISSIONS TO SICK REPORT.

In favor of the white troops.			In favor of the colored troops.		
Diseases.	Admission rates per 1,000 of mean strength.		Diseases.	Admission rates per 1,000 of mean strength.	
	White.	Colored.		White.	Colored.
Boils	3.38	25.00	Alcoholism and results	50.88	2.23
Bronchitis	66.99	87.50	Intermittent fever, tertian	29.44	23.66
Intermittent fever, quotidian	50.97	68.75	Simple ephemeral and catarrhal fevers	9.54	4.46
Articular rhematism, subacute and chronic	32.91	58.04	Cholera morbus	8.56	3.57
Tonsillitis	34.67	49.11	Dermatitis from heat, poisonous plants, insects, etc	9.03	4.46
Neuralgia	30.79	44.64	Abscesses	9.95	6.70
Quinsy	2.73	16.52	Typhoid fever	7.50	5.36
Headache	23.61	36.16	Cardiac irritability	3.15	.89
Constipation	15.23	26.79	Herniæ	2.64	.45
Asthma	1.48	12.50	Tænia	1.94	.....
Chancroid	7.78	18.75	Eczema	2.96	1.34
Syphilis and results	22.31	29.46	Scabies	1.48	.....
Hemorrhoids	12.18	19.20	Influenza	2.36	.89
Catarrh and common colds	29.12	35.71			
Conjunctivitis, acute and chronic	14.49	20.98			

CONSTANT NON-EFFECTIVENESS.

In favor of the white troops.			In favor of the colored troops.		
Diseases.	Non-effective rates per 1,000 of mean strength.		Diseases.	Non-effective rates per 1,000 of mean strength.	
	White.	Colored.		White.	Colored.
Chancroid	.43	1.58	Alcoholism and results	.53	.02
Pulmonary phthisis	.61	1.44	Gonorrhœa and results	1.85	1.49
Syphilis and results	2.04	2.78	Cystitis	.42	.12
Chronic articular rheumatism	2.23	2.76	Typhoid fever	.96	.72
Intermittent fever, quotidian	1.11	1.59	Intermittent fever, tertian	.55	.34
Bronchitis	1.42	1.83	Hernia, inguinal	.22	.01
Adenitis	.48	.88	Abscess	.38	.19
Remittent fever	1.01	1.40	Cardiac irritability	.17	.01
Venereal bubo	.31	.60	Nephritis (acute and chronic)	.22	.07
Conjunctivitis	.48	.74	Dyspepsia	.46	.31
Acute articular rheumatism	.39	.63	Eczema	.18	.03
Venereal epididymitis and orchitis	.25	.48	Vaccina	.75	.61
Diarrhœa	1.46	1.67	Varicose veins	.14	.....
Neuralgia	.71	.92	Enteritis	.15	.01
			Arthritis and results	.16	.02

INDIAN SCOUTS.

The mean strength of Indians employed as scouts during the year was 154. Their admissions to sick report numbered 36, or a rate of 234 per

1,000, and their deaths 1. Injuries caused 9 of the admissions, diseases of the integumentary system 5, diseases of the eye 5, malarial fevers 4, and venereal diseases 3; no cases of alcoholism were reported. The death was caused by a shot wound inflicted upon a scout who was endeavoring to escape arrest.

CIVILIANS ATTACHED TO OR WITH THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employés of the various departments, together with their families, and, in short, all persons not included in the *personnel* of the Army, who are allowed to reside at military stations or accompany military commands.

As shown by the consolidated reports of the Medical Department, with a mean strength of 23,841 officers and enlisted men of the whole Army, there was constantly present during the year an average of 13,773 civilians, of whom 2,934 were adult males, 5,015 adult females, and 5,824 children. The admissions to sick report during the year numbered for the adult males 1,239, and the deaths 32; for the adult females 5,046, and the deaths 31; for the children 4,881, and the deaths 99; or an aggregate of 11,166 admissions and 162 deaths. The admission rate per 1,000 of mean strength, therefore, appears to have been 422 for adult males, 1,006 for adult females, and 838 for children, or 811 for all civilians; and the death-rate, 11 for adult males, 6 for adult females, and 17 for children, or 12 for all civilians. For the previous year the admission rate for adult males was 412, adult females 895, children 680, all civilians 694; and the death-rate, adult males 10, adult females 6, children 16, all civilians 11.

The periods of greatest and least sickness among the civilian attachés, together with the prevailing causes of disability have been considered under the heads of the different grand divisions. The number and causes of deaths occurring in each of these classes of civilian attachés are shown in the following table:

Diseases	Adult males.	Adult females.	Children.	Total.
Specific febrile and acute infectious	4	4	29	37
Dietic	.....	.....	9	9
Developmental	.....	.....	6	6
Nervous system	.....	4	16	20
Circulatory system	2	3	.....	5
Respiratory system	16	8	14	38
Digestive system	3	3	18	24
Urinary system	1	3	1	5
Parturition and results	.....	2	.....	2
Cancer, uterine	.....	1	.....	1
Unclassified	.....	1	1	2
Total deaths from disease	26	29	94	149
injuries, poisons	6	2	5	13
Total deaths from all causes	32	31	99	162

MARRIAGES AND BIRTHS.

Upon the consolidated reports of the medical department there were noted during the year 72 marriages, of which 18 were of officers, 50 were of enlisted men, and 4 were of civilian attachés of the Army.

There were recorded also 537 births, of which 295 were male and 242 female; 108 were children of officers, 373 of enlisted men and 56 of civilian attachés.

THE RECRUITING SERVICE.

As shown by the reports received from the various recruiting rendezvous, depots, and military stations, 17,412 applicants for enlistment were examined by medical officers during the year; of this number 1,828 were colored.

There were rejected on primary examination 9,923 applicants, of whom 1,030 were colored, and of those accepted and sent to depots 57 were rejected on subsequent examination; of these rejections 4 were of colored applicants.

The ratio of rejections was 57 per 100 of all examinations, and was the same for both white and colored applicants.

The greatest number of rejections was for diseases of the eye, 7 per cent. of all rejections being for this cause alone; diseases of the circulatory and digestive systems, and general unfitness, each about 5 per cent.; diseases of the reproductive and locomotor systems each 4 per cent.; developmental defects about 3 per cent.; diseases of the respiratory system, and enthetic diseases, each about 2½ per cent.; under age, under height, and under weight each about 3 per cent.

There were also examined a number of Indians (371, with 3 rejections) for enlistment as scouts, but they are not included in this statement, or in the tabular summary of causes of rejection.

LIST OF SPECIAL MEDICAL AND SURGICAL REPORTS RECEIVED FROM MEDICAL OFFICERS OF THE ARMY DURING THE YEAR 1887.

MEDICAL REPORTS.

Name.	Rank.	Reports.
Alden, C. H	Surgeon	Acute pulmonary tuberculosis.
Appel, D. M	Assistant surgeon	Fatty degeneration of heart; autopsy.
		Abscess of liver.
Banister, W. B	Assistant surgeon	Acute dysentery.
Bushnell, G. E	Assistant surgeon	Vaccinations.
		Vaccinations.
Chapin, A. R	Assistant surgeon	Acute general tuberculosis.
Comfort, A. I	Acting assistant surgeon.	Acute hepatitis.
Cleary, P. J. A	Surgeon	Subacute meningitis.
		Acute pneumonia.
		Circumscribed pneumonia.
Cline, G. L	Acting assistant surgeon.	Chronic non-suppurative inflammation of middle ear.
Crosby, W. D	Assistant surgeon	Uræmia; autopsy.
DeLoffre, A. A	Assistant surgeon	New set of test spots for use in examination of vision of recruits.
Ewing, C. B	Assistant surgeon	Hypertrophy of heart.
Frick, A. P	Acting assistant surgeon.	Continued fever.
Forwood, W. H	Surgeon	Typhoid fever.
Girard, A. C	Assistant surgeon	Malingering.
Gorgas, W. C	Assistant surgeon	Typhoid fever; (thermograph).
		Diphtheria.
Harmer, J. R	Acting assistant surgeon.	Remittent fever.
Kilbourne, H. S	Assistant surgeon	Observations on the vision test for recruits.
Koerper, E. A	Surgeon	Vaccinations.
Mason, C. F	Acting assistant surgeon.	Typhoid fever.

Name.	Rank.	Reports.
McClellan, E	Surgeon	Measles at Jefferson Barracks, Mo.
		Typhoid fever.
		Œdema of lungs.
		Small-pox.
		Small-pox.
Middleton, J. V. D	Surgeon	Typhoid fever.
		Typhoid fever and pneumonia.
Newton, R. C	Assistant surgeon	Encephaloid cancer involving abdominal organs.
Patzki, J. H	Assistant surgeon	Cancer of stomach.
Porter, J. Y	Assistant surgeon	Yellow fever at Key West.
Pring, E. J	Acting assistant surgeon.	Acute alcoholism.
		Acute alcoholism.
Strong, N	Assistant surgeon	Pleurisy with effusion.
Sutherland, C	Surgeon	Cholera; recommends sanitary precautions.
Tesson, L. S	Assistant surgeon	Tubercular cerebral meningitis; recovery.
Tilton, H. R	Surgeon	Typhoid fever.
Waters, W. E	Surgeon	Rupture of bladder.
Wood, M. W	Assistant surgeon	Uterine cancer treated by electrolysis: rötheln.

LIST OF SPECIAL MEDICAL AND SURGICAL REPORTS, ETC.—Continued.

SURGICAL REPORTS.

Name.	Rank.	Reports.
Adams, F. J	Acting assistant surgeon.	Kocher's method of reducing dislocation of humerus.
		Hæmorrhoids and fistula in ano; treated with iodoform.
		Elevation of depressed fractured parietal bone.
Benham, R. B	Assistant surgeon	Shot fracture, cranium; autopsy.
Brown, P. R	Assistant surgeon	Shot wound of abdominal parietes.
		Shot fracture of ankle joint; amputation.
		Shot fracture of knee joint; amputation.
		Shot fracture of knee joint; amputation.
Bushnell, G. E	Assistant surgeon	Traumatic erysipelas.
Cline, G. L	Acting assistant surgeon.	Incised wound; chronic inflammation of knee-joint.
Comfort, A. I	Acting assistant surgeon.	Lesion of spinal cord; autopsy.
Corbusier, W. H	Assistant surgeon	Concussion of brain; acute meningitis.
Culbertson, H	Assistant surgeon retired.	Surgical cases.
Davis, T. B	Acting assistant surgeon.	Shot perforation of bladder.
Everts, E	Assistant surgeon	Shot wound, perforating, chest.
Frick, A.P	Acting assistant surgeon.	Shot wound, liver; recovery.
Gibson, R. J	Assistant surgeon	Lumbar abscess.
Girard, A. C	Assistant surgeon	Shot fracture of wrist joint; excision.
Gorgas, W. C	Assistant surgeon	Tracheotomy in a case of diphtheria; suffocation.
Happersett, J. C. G	Surgeon	Poisoning by canned corn beef.
Harmer, J. R	Acting assistant surgeon.	Shot wound, perforating, abdomen.
Harris, H. S. T	Assistant surgeon	Shot wound, penetrating, chest.
Hoff, J. VanR	Assistant surgeon	Floating kidney; nephrorraphy.
Hopkins, W. E	Assistant surgeon	Rupture of brain tissue by a fall.
Hubbard, V. B	Surgeon	Burn, fatal.
Jarvis, N. S	Assistant surgeon	Compound fracture of patella.
LaGarde, L. A	Assistant surgeon	Caries of humerus; excision.
Patzki, J. H	Assistant surgeon	Simple fracture, femur.
Perley, H. O	Assistant surgeon	Contusion; erysipelas; pyæmia.
		Varicose veins.
Raymond, H. I	Assistant surgeon	Tracheotomy in a case of membranous croup.
Reed, W	Assistant surgeon	Compound fracture of cranium.
Robinson, S. Q	Assistant surgeon	Drowning; autopsy.
Shannon, W. C	Assistant surgeon	Poisoning from eating lobster.
		Multiple neuritis from injury; death.
Suter, W. N	Assistant surgeon	Shot wound, perforating, abdomen.
Taylor, A. W	Assistant surgeon	Homicide by shot wounds; autopsy.
Taylor, M. E	Assistant surgeon	Aneurism, femoral artery.
Tilton, H. R	Surgeon	Extraction of splinter of wood twelve years after injury.
		Concussion of brain.
		Shot fracture of cranium.
Wakeman, W. J	Assistant surgeon	Poisoning by opium.
Waters, W. E	Surgeon	Shot wound, perforating, chest.
Weirick, S. T	Acting assistant surgeon.	Fracture of cranium.
Woodhull, A. A	Surgeon	Shot fracture, cranium.
Worthington, J. C	Assistant surgeon	Poisoning by opium.

HYGIENE OF THE ARMY FOR THE CALENDAR YEAR ENDING DECEMBER 31, 1887.

The sanitary reports received from medical officers during the year ending December 31, 1887, bear evidence that the important duty of supervising the hygiene of the commands to which these officers were attached was performed by them, as a rule, with a full appreciation of the great responsibility devolving upon them, and with a commendable degree of intelligence and discretion.

In the majority of instances the post surgeons received the cordial support and co-operation of their immediate commanders in the sanitary measures recommended, and, so far as the means at hand would permit, those measures were generally carried out.

But, notwithstanding the vigilance of medical officers and the active efforts of commanding officers, the fact remains that the sanitary conditions which prevail throughout the Army are in many respects susceptible of great improvement. Some of these conditions are, beyond a doubt, already operative in the impairment of the health and efficiency of the Army, while others may become so to a most disastrous extent under contingencies which are by no means improbable or remote. The offensive and dangerous privy vault and cesspool are still in common use; lack of proper bathing facilities continues to be a constant cause of complaint; overcrowding of quarters and insufficient ventilation are frequently reported; the water supply of certain stations is inadequate, and at others there is reason to fear its pollution; the drainage of many posts is defective; the uniform clothing is found to be altogether unsuited to the requirements of the men in hot climates;* and the issue of salt pork as a part of the ration is generally condemned at southern stations, as is the deficiency in the food supply at some of them, which compels enlisted men to contribute to the purchase of fresh vegetables out of their own limited means, while at the same time the proceeds of the sale of a portion of the ration are devoted to the maintenance of a regimental band, and to other purposes entirely foreign to that of feeding the soldier.

To remedy these evils drastic measures are required: antiquated methods must be abandoned, traditions of the service must be disregarded, and individual opinions and preferences must be overruled, where any of these conflict with the teachings of modern sanitary science. But little can be accomplished in this direction without vigorous and decisive action on the part of the higher military authorities. Such action is urgently demanded, and, in order that it may be followed by the best results, it should be taken

* Since the close of the calendar year 1887, for which this report is made, the Quartermaster's Department has prepared, and issued to the troops in the department of Texas, and in a portion of the department of the Missouri, clothing especially intended for wear in hot climates, which, it is hoped, will remove the cause of complaint against the uniform referred to above and in subsequent pages of this report.

in accordance with a plan so carefully considered and comprehensive that not only will the removal of existing evils be provided for, but their avoidance in the future will be insured.

The gradual abandonment of the smaller posts, and the concentration of troops into larger commands, will greatly increase the harmful potentialities of unsanitary conditions, which now pass almost unnoticed, but which need only the added conditions inseparable from the aggregation of large numbers of men to make them productive of the most serious consequences. It is therefore especially to be urged that in the selection of sites for new posts, and in the erection of new buildings, greater attention to sanitary details than has heretofore been given should be insisted upon, and that measures should be taken to prevent the repetition of those errors and omissions of location and construction, the effect of which, as a glance at the succeeding pages of this report will show, are so seriously felt, and so often reported, at military stations now occupied by the Army.

The formulation of a general plan for the improvement of the sanitary conditions now prevalent throughout the Army, especially those connected with the construction of quarters, and with water supply, drainage, disposal of night soil, bathing facilities, food and clothing, is a matter of so much moment, and involves the consideration of so many questions of a diverse nature, and the reconciling of so many conflicting interests, that it ought to be entrusted, not to any one officer, or to the officers of any one arm or department, but rather to a board of officers, who should represent different branches of the service, and should be selected because of their especial fitness for the duty required. No argument can be needed to demonstrate the necessity for a full representation of the Medical Department in the organization of such a board, for it is obvious that, by reason of his special training and experience, the opinion of the military surgeon and sanitarian upon almost any question likely to be presented for the consideration of the board must be entitled to considerable weight, while without his advice and assistance a satisfactory solution of many problems of sanitation can not be hoped for.

I earnestly recommend the appointment of a sanitary board as indicated above, and that this board be charged with a thorough investigation of, and report upon, the sanitary conditions prevailing in the military establishment. This report should include a statement of the nature and probable cost of proposed improvements, and upon it can be based any action which may be deemed advisable. If it be found, as it doubtless will be, that current appropriations are insufficient to meet the cost of the changes recommended, Congress can very properly be asked to provide the necessary funds.

The following is a summary by regions of the more important comments made by medical officers during the year on the sanitary condition of barracks and quarters, and on the food, cooking, clothing, water-supply, bathing facilities, disposal of night soil, drainage, and the habits of the men:

SANITARY CONDITION OF BARRACKS AND QUARTERS.

Atlantic Coast.—At Fort Schuyler, N. Y., Asst. Surg. J. B. Girard reported that the quarters and other buildings were greatly in need of repair, but otherwise not objectionable.

At Fort Hamilton, N. Y., Surgeon A. Hartsuff stated that the casemates used as quarters were very damp and mouldy, the walls and ground underneath the floors wet, the timbers rotten, and the air stagnant; that during the summer fires were necessary in these quarters every day, even when the thermometer outside registered 95°; that quarters outside the casemates should be provided at once, and all quarters inside the casemates abandoned; that in the buildings used as officers' quarters many of the basements were wet and subject to flooding during storms; that some of these buildings were set close to the ground and had no basements, and in these the foundation timbers were rotten, and the air underneath stagnant and foul; that the tin-covered roofs of some of them were in such close proximity to the ceilings that in warm weather the heat in the second stories was almost intolerable.

At Fort Wadsworth, N. Y., Assistant Surgeon V. Havard suggested that some means of ventilating the casemates should be devised, because, when the doors and windows were closed, the air was very close and stagnant.

At David's Island, N. Y., Surgeon J. V. D. Middleton, in his report for January, said that considerable sickness had occurred at the post on account of the crowded condition of the barracks in connection with the changeable weather and damp atmosphere, and that six cases of pneumonia, several of them very severe, and a large number of cases of bronchial catarrh and tonsillitis had been treated in the hospital during the month. Overcrowding and insufficient ventilation of these barracks continued to be a cause of complaint for a great part of the year.

At Willets Point, N. Y., in December, Surgeon J. C. G. Happersett stated that, in his opinion, the overcrowded, badly ventilated condition of the barracks was one of the chief causes of the constantly large sick report of the post, and renewed his recommendation for the admission of fresh air by means of boxes opening beneath the stoves. Of the guard-house, he said: "I know of no alteration which could be made that would make it a creditable building for the purpose. The basement prison room, which is damp and without ventilation, and in which the excrement of, sometimes, twenty-six prisoners is accumulated from evening until morning, is scarcely in keeping with the demands of modern sanitary science."

Northern Lakes.—At Fort Snelling, Minn., in May, Surgeon C. H. Alden invited attention to the unfitness of the old hospital for further occupation as quarters, stating that the lower floor was partly underground and damp, and that the same objection applied to the basement in the old stone fort occupied by married soldiers and their families.

At Plattsburg Barracks, N. Y., in December, Assistant Surgeon W. O. Owen reported that the accommodations of the hospital were entirely insufficient to admit of the proper treatment of the sick, there being only one room available for use as a ward, and as a day and sleeping room for the attendants. The capacity of this room was stated to be 5,040 feet, giving 840 cubic feet of air space to each bed, the windows and doors furnishing the only means of ventilation.

At Madison Barracks, N. Y., in August, Assistant Surgeon E. T. Comegys recommended that furnaces be introduced into the officers' quarters for the reason that these buildings, which are of stone, are extremely damp in the spring and fall months.

At Fort Wayne, Mich., in March, Surgeon H. McElderry found that the ventilation in the dormitories of the men was defective because of the lack of inlets for fresh air, there being none at all except the doors and windows, which, in cold weather, the men keep tightly closed. He recommended the adoption of the system then in successful operation in the post hospital.

Central Timbered Plains and Hills.—At Jefferson Barracks, Mo., Surgeon E. McClellan condemned the practice of storing vegetables in the basements of the barracks, and expressed the opinion that much sickness had resulted therefrom. The erection of a separate building for this purpose was recommended.

Prairies.—At Fort Sisseton, Dak., Assistant Surgeon J. L. Phillips, in his sanitary report for April, called especial attention to the want of room in the company quarters, saying that they are poorly ventilated, miserably lighted, and overcrowded; that the aisles in the dormitories, which serve the double purpose of dormitory and sitting room, are about 4 feet wide; that the bunks are not more than 30 inches apart; and that the height of the room is about 10 feet. This condition appears to have remained unchanged throughout the year, though an attempt was made to remedy the overcrowding by placing some of the men in tents during the summer.

At Fort A. Lincoln, Dak., Assistant Surgeon V. Havard reported, in December, that the unsubstantial character of most of the occupied quarters, and the careless manner in which they were constructed, make it difficult to keep them warm during the winter months, and impossible for most of the married officers to keep within their allowance of fuel.

At Fort Yates, Dak., the barracks occupied by the enlisted men were reported to leak badly, and to need re-shingling.

At Fort Bennett, Dak., in December, Acting Assistant Surgeon J. B. Ferguson states that the quarters of enlisted men are too small, and the ventilation poor, and adds: "The building itself is raised from 2 to 3 feet above the ground level, and stands upon wooden supports which rest upon the surface only. The constant freezing and thawing of the earth in winter affects the building injuriously, producing large cracks in the wall and making it impossible to keep the plaster in good condition. These cracks admit cold drafts, which render the men liable to colds, catarrh, etc. This can only be remedied by placing a solid foundation of brick or stone underneath, which should be done as a matter of economy if for no other reason."

At Fort Sully, Dak., Surgeon C. De Witt reported that a majority of the buildings were old and unfit for habitation; that none of them had any means of ventilation other than the doors and windows; and that in cold weather it was impossible to keep the officers' quarters even comfortable.

At Rock Island Arsenal, Ill., Acting Assistant Surgeon W. W. Grant, in his April report, says: "The hospital is the only building at the post in bad condition. It is old and decayed, and is liable to fall down during any severe storm, and its present appearance is a disgrace to the arsenal."

At Fort Riley, Kan., Surgeon S. M. Horton reported that the guard house was insufficiently ventilated, and that some of the barracks were overcrowded and badly ventilated.

At Fort Concho, Tex., Assistant Surgeon C. M. Gandy remarked that, considering the loose construction of the quarters, and the dust storms of the country, the quarters were kept remarkably clean, but that, as regards

repair, their condition could hardly be worse, and that in cold, wet weather they were unfit for human habitation. In the sanitary report of this post for May, he says: "The recent cyclone has still further damaged the already dilapidated quarters, and it is earnestly hoped that some repairs will be made thereon before another winter, should the post be occupied so long, because positive suffering must ensue among troops spending the winter in such shells as these now are. I would also recommend that some steps be taken to close the chinks and crannies (and they are many) in the walls and around the window frames of the officers' quarters, that they may be made, at least partially, bat-proof. The low, badly ventilated attics, by courtesy styled bedrooms, are well-nigh uninhabitable with the sun's rays beating down upon the roof, and because of the stench arising from myriads of bats."

Great Plains.—At Fort Assinniboine, Mont., in December, Assistant Surgeon L. A. LaGarde says: "The winter season demonstrates that the men's barracks are faulty, in that the kitchens are included in the main part of the buildings. In a climate like this, in which it is found necessary to close doors and windows the greater part of the year, the culinary department of every barrack should be separate and distinct from the main building. The smell of cooking cabbage, turnips, and sour-krout, and of the cooking generally, is detected in the dormitories and barrack rooms at nearly every inspection. The kitchens are tight boxes, with no attempt at ventilation whatever."

At Fort Custer, Mont., Assistant Surgeon C. E. Price reported that the barracks, hospital, and officers' quarters were old and much out of repair, and that the ventilation of all was poor, there being no arrangement for obtaining a supply of warmed, fresh air, while in very cold weather the exits for foul air were sure to be closed, and the rooms to become offensive in consequence. In December he remarked that the guard house was in very bad condition, there being only one room for the general and garrison prisoners, and that the floor and walls were in such a bad state of repair that it was impossible to keep the building properly cleaned. He further says: "The guard tent for the officer of the guard does not afford adequate shelter to the officer occupying it in such weather as we have had for the past ten days, and the weather will probably be colder during the next month. Although in cases of necessity, even in colder weather than we have yet had, officers live entirely in tents, and by doing so continuously become inured to it, and their health suffers no injury, still, when it is not absolutely necessary, I consider it a very risky procedure to compel an officer, whose duties are of such a nature that he must be dressed to go out at a moment's notice, and who sleeps ordinarily in a warmed house, to occupy a single tent, with open floor, and only dry cottonwood for fuel."

At Fort Meade, Dak., in December, Assistant Surgeon George McCreery reported that the barracks were overcrowded, and the ventilation totally inadequate.

At Fort Niobrara, Nebr., Assistant Surgeon T. E. Wilcox stated that the guard house was wholly unfit for its purpose and greatly in need of repairs.

At Fort Robinson, Nebr., Assistant Surgeon W. Reed reported that the quarters occupied by a troop of cavalry were old and dilapidated, miserably lighted and ventilated, and unfit for occupation.

At Fort Hays, Kan., Surgeon H. M. Cronkhite having reported a case of typhoid fever due to a defective drain, the Medical Director of the department, Surgeon Charles Page, remarked that the barracks at this post were hardly habitable, and that an early abandonment of the station would be to the advantage of the command.

At Fort Reno, Ind. T., Assistant Surgeon J. Van. R. Hoff persistently urged the adoption of ridge ventilation in the barracks, but the post commander disapproved of the expedient as it required work and materials for which no funds were available, and because he thought in that climate the barracks were nearly always well ventilated by open doors and windows. In September the post surgeon renewed his protest against the faulty construction and overcrowded state of the quarters, and said: "It has been said that the sick report shows no evidence of unsanitary conditions, and therefore that they cannot exist; but even if this were the fact, it is well known that overcrowding and bad air generate poisons which, though not necessarily immediately manifest in their effects, cause a continuing loss of vitality, and ultimate breakdown. Leaving out of consideration service efficiency, and regarding the subject from a pecuniary standpoint, and merely as a matter of economy, troops should never be exposed unnecessarily to unsanitary conditions, for the ultimate outlay in the way of pensions alone would greatly exceed the cost of rendering the habitations of our Army entirely healthful."

At Fort Elliott, Tex., Assistant Surgeon R. C. Newton reported that the guard house was old, with decaying floors and timbers.

At Fort Stanton, N. Mex., Assistant Surgeon M. E. Taylor remarked, in his October report, that, with few exceptions, the buildings at that post have been imperfectly planned and constructed for health and comfort. Recently they have been much improved.

At Camp Pena Colorado, Tex., Assistant Surgeon P. Clendenin reported that the men's barracks were totally inadequate in size, and the bunks too near together. He recommended that a broad veranda be built around the barracks.

At Fort Clark, Tex., Surgeon B. F. Pope, in April, remarked that the barracks, with one or two exceptions, were overcrowded, and that some of them had such low roofs and small windows that in summer the heat in the upper stories was almost unendurable. He remarked that this defect might be remedied by introducing ridge ventilators.

At Fort Ringgold, Tex., Assistant Surgeon Wm. F. Carter stated that the company quarters had no system of ventilation, and the dormitories were overcrowded; that the barracks needed general repair and the introduction of ridge ventilation, and that they were infested with bats.

At Camp Eagle Pass, Tex., Assistant Surgeon P. R. Egan reported that the quarters were old, and too open to the "northers" to be healthful.

Cordilleras.—At Boise Barracks, Idaho, in March, Assistant Surgeon A. C. Girard remarked that the quarters of the commissary and quartermaster sergeants were log buildings, built of green logs in 1866; that the logs were rotten, harbored bed-bugs, and exhaled an unpleasant odor.

At Fort Washakie, Wyo., in April, Acting Assistant Surgeon C. T. Mason called attention to a portion of the wing of the cavalry barracks which had fallen in, and urged that these buildings be torn down and new ones erected.

He also reported that the barracks and hospital were badly ventilated, and recommended ridge ventilation.

At Fort Union, N. Mex., in September, Surgeon H. Lippincott stated that the barracks were old and worn out.

At Fort Thomas, Ariz., in May, Assistant Surgeon E. R. Morris remarked that the roofs of the officers' quarters leaked badly.

At Fort Grant, Ariz., in January, Assistant Surgeon W. H. Corbusier reported the barracks to be badly ventilated, and that one set was unfit to be occupied.

At Fort Huachuca, Ariz., in June, Assistant Surgeon L. Wood reported that the ventilation of the guard house was very poor, and was effected through the windows, there being no overhead ventilation. He recommended the introduction of ventilators in the ceiling.

Pacific Coast.—At Fort Canby, Wash., in September, Assistant Surgeon C. E. Munn stated that the officers' quarters were not properly ventilated, and suggested the cutting of apertures in the brick underpinning.

At Angel Island, Cal., in November, Surgeon R. H. White called attention to the dilapidated condition of most of the post buildings, and said: "The foundations are rotten; the floors are worn out; the plastering is cracked from the settling of the piles on which the buildings rest; the roofs should be renewed; and, altogether, the repairs needed are so general as to suggest that the entire post should be rebuilt rather than repaired. To patch the present dilapidated post would seem to be false economy."

FOOD.

Gulf Coast.—At Fort Brown, Tex., in June, Assistant Surgeon S. Q. Robinson remarked that the pork and bacon were not of satisfactory quality.

Prairies.—At Fort Bennett, Dak., in January, the supply of vegetables became exhausted, and, on Acting Assistant Surgeon J. B. Ferguson's recommendation, the bread ration was increased to twenty-two ounces. At the same time the fresh beef was reported to be of poor quality, and it was said that this is usually the case at that season of the year.

At Fort Concho, Tex., in his report for December, Assistant Surgeon C. M. Gandy remarks: "A more varied diet, with an actual saving in cost, might be effected if the subsistence department kept for sale at the post a greater variety of stores; golden syrup is preferred by the men to "drips," and the cost is about half; breakfast hominy and cheese (Young America) are popular and nutritious articles of diet; and so the list might be extended without exceeding the supply table."

It was also reported that the greater part of the potatoes received at this post in July were rotten, and that a large portion of the remainder spoiled before they could be used.

At San Antonio, Tex., Surgeon F. L. Town found that the saving which could be made on the ration did not admit of the purchase of fresh vegetables for company messes.

Great Plains.—At Camp Poplar River, Mont., in May, Assistant Surgeon C. N. B. Macauley said that the ration was good, except the beef, which was still somewhat impregnated with wild garlic.

At Fort McKinney, Wyo., in May, Assistant Surgeon D. Weisel remarked that complaint was made of the inferior quality of the fresh beef; that it contained an undue percentage of bone, and was very poor.

At Fort Robinson, Nebr., in April, Assistant Surgeon W. Reed reported an outbreak of diarrhœa due to eating apples which had been stewed in a copper-lined kettle, and left standing therein for nearly twenty-four hours.

At Fort Laramie, Wyo., in March, Asst. Surg. A. W. Taylor noted that the bread was musty and not fit for use.

At Fort Reno, Ind. T., in October, Assistant Surgeon J. Van R. Hoff reported the treatment of a number of cases of tape-worm, and said: "It is presumed that these cases originated from eating raw, or underdone meat, though usually meat served to enlisted men is rather over than underdone. I would respectfully suggest that the command be cautioned against eating raw, or improperly cooked, meat."

At Fort Bliss, Tex., Assistant Surgeon S. G. Cowdrey, in his report for the month of March, says, concerning the commissary supplies: "There could be a great improvement in the quality of some of the articles, and a great saving in others, if the requisitions for perishable articles were made for a shorter time. This especially applies to the supply of butter and bacon. The commissary is now selling butter which was received at the post last September; it is pretty poor stuff. The supply of bacon sent here last year was so great that much of it was spoiled before it could be used, and was condemned as worthless and rancid."

At Camp Pena Colorado, Tex., in October, Assistant Surgeon P. Clendenin, condemning the issue of salt pork, remarked: "Salt pork is unfit for issue in this climate even when it is in good condition; the men rarely relish it, even in winter, and it is almost impossible to keep it sweet with the exercise of the greatest care; it frequently spoils in transportation, and is unfit for use when received."

The post commander concurs in the foregoing, and adds that, because there is no sale for the salt pork except to the subsistence department, and that at a very low price, and because the greater part of the savings of a troop or company must be made on the salt meat, it follows that the men are compelled to contribute out of their pay one dollar each, per month, in order to obtain potatoes, onions, and other fresh vegetables.

In December, the post surgeon further says: "Two-tenths of the meat ration is issued in salt pork. Even this small proportion is too great; the larger part of it is turned in to the commissary, and but a small return is obtained for it. I consider it very unfortunate that all the salt meat can not be issued in bacon, which is quite palatable, and has a higher money value."

At Fort Clark, Tex., Surgeon B. F. Pope reported, in March, that the diet of the troops appeared to be satisfactory, but he had learned that in several companies it was made so only by contributions from the pay of the men.

In his sanitary report for May he says: "Considerable complaint has been made in regard to the beef. I have, on several occasions, found it blood-sodden and soft, as though the animals had been overdriven before slaughter. Should this prove to be the case, the attention of the contractor should be called to the fact with a view to remedying it."

At Fort Ringgold, Tex., in February, Assistant Surgeon W. F. Carter writes: "The diet of the men is very good, though this is owing to the fact that the enlisted men of the companies contribute about a dollar a month per man to keep up the company mess. The extra contribution is mainly used for the purchase of potatoes and onions. It is manifestly unfair that the enlisted men should have to contribute from their small pay to the common mess in order to procure the food which the appetite craves in this climate, and which is necessary to the health and well-being of the command. I recommend that every possible effort be made to secure the addition of potatoes and onions in suitable quantities to the ration at this post, and to have salt pork, of which the men have not eaten as much as an ounce per man during the last fifteen days, dropped from the food supply."

In forwarding this report, the Medical Director of the department, Surgeon E. P. Vollum says: "The practice of taking monthly contributions of about one dollar each from the enlisted men, mainly for the purchase of potatoes and onions for the company mess, is an emphatic and pointed criticism of the ration, or the management of it, by those who have to eat it. This practice has existed in this department quite generally for some years past, and the necessity for it should be inquired into, and means adopted to abolish it. Surely it never was intended by the government that the enlisted men should be compelled to purchase the food that they feel is necessary to their health and well-being."

In the sanitary report of Fort Ringgold, Tex., for April, Assistant Surgeon H. S. T. Harris remarks: "The acting commissary of subsistence continues to issue salt meat to the companies for three days out of ten. The salt meat, as before mentioned, is not suited for consumption in this climate; it would be palatable in the winters of Dakota, but it is revolting at all seasons of the year in Texas. Its cheapness seems to be the only argument in favor of its use. An extension of the same argument would lead to the adoption of even a worse diet, if any articles of diet could be worse than salt pork for this climate. If the salt meat were dispensed with, and fresh vegetables added in its stead, the men would be more contented, and their health would be improved."

In forwarding this report, the post commander says: "The remarks regarding the issue of salt meats, condemning it in this almost tropical climate, meet my entire concurrence. Every medical officer of experience and judgment has properly urged the discontinuance of the issue on the ground that it is detrimental to the health of the troops, yet their recommendations have been entirely ignored. Fat salt pork may be deemed a luxury when nothing else is obtainable, but otherwise it is repulsive to taste and digestion. Why this issue is forced upon the soldier after its injurious effects have been so forcibly and repeatedly represented by the medical profession, which is presumed to know what should constitute a healthful diet, is incomprehensible."

The Medical Director of the department expressed his concurrence in the views of the post surgeon and post commander.

In May it is reported from this post that the men do not eat the fat salt pork, but buy vegetables with their own money. The Medical Director adds: "This amounts to furnishing a kind of food which is unfit for the men to eat, and forcing them either to buy the kind which they crave, and

need, with their own money, or to go without it. It is believed that, if the feeling of repugnance the men have for pickled pork in this climate could be brought to the attention of the authorities, this ground of complaint, which prevails all over the department, would be abolished."

In June, after stating that each man contributes two dollars, or a little more, at each pay-day, for the purchase of potatoes and onions, the post surgeon continues: "After some further observation of pickled pork as an article of diet, I must repeat my former statement that the men do not like it. A mess of it is commonly served alone. Great slabs of it are left uneaten; these are cut up into a pie, or hash, or disguised in beans or cabbage, and finally gotten rid of. It is a very economical article of diet—a little of it goes a long way. I hope that every effort will be made to have fresh vegetables issued as a part of the ration at this station, or to have the money value of the ration so increased that vegetables may be purchased with the company savings, and also to have pickled pork abolished as a part of the ration."

In the sanitary report of this post for November, Assistant Surgeon W. F. Carter remarks: "The issue of mess pork should be discontinued in this climate. It should be borne in mind that the average temperature of this latitude approaches, if, indeed, it does not reach, the highest known in the United States. The kind of food the system needs is determined largely by conditions of climate, and it is irrational to suppose that a diet suitable to the dwellers along our Canadian border would be, or could be, a proper diet for the inhabitants of the semi-tropical climate of our Mexican frontier. In the cold and bracing climate of high latitudes the exalted and quickened vital processes demand a food more or less rich in hydrocarbons, and the digestive organs receive and easily digest such food for the reason that the system, under the conditions of active tissue change, requires it. In a hot climate the conditions are quite the reverse, and an article of food containing so large a proportion of the heat-producing elements as does mess pork becomes distasteful, and even disgusting. Observation has satisfied me that our Army ration is deficient, at least at posts where gardens do not furnish an adequate supply of fresh vegetables, or during seasons of the year when no vegetables can be raised.

"During the last month the company gardens at this post have been fairly good. I am not prepared to say that the authorized ration is inadequate, if it were judiciously and economically managed, and the men received the full benefit of it as food. I am decidedly opposed to the diversion of any portion of the savings of the ration to any fund other than a food-fund. The enlisted man should get the full benefit of his ration in the best and greatest variety of food possible to be derived from its judicious use. He should not be required to contribute to a fund for the support of his regimental band, etc., while, at the same time, he is drawing from his own private means to supply a deficiency which such contribution has caused. And I believe that the expenditure of the company fund should be limited solely to the purchase of articles of food. A careful post treasurer can always make a post fund. I have observed this at posts where the issue of twenty, or more, ounces of bread was allowed, and at these very posts the men contributed about a dollar per month of their pay for the purchase of potatoes and onions. In these instances the allowance of bread was suffi-

cient, but the ration in other respects was insufficient. The excess in the bread allowance should have gone to supply, as far as possible, the much needed fresh vegetables."

The Medical Director of the department, in forwarding this report, remarks: "The diversion of a portion of the savings of the ration for the support of bands, etc., is quite unanimously regarded as an injustice to the soldier; such savings should be used for the purchase of food only. If this were the rule there would be less necessity for the men to contribute part of their pay for the purchase of fresh vegetables for their company mess, as is now commonly done. Last year over $12,000 were spent in this way in this department."

The Inspector General of the department, while he does not concur in all the opinions expressed in the report, says: "The question of mess pork has been discussed at some length by officers serving in Texas, but without arriving at any satisfactory results. It is a well-known fact that in hot climates mess pork is not the diet of the natives. As far back as December 11, 1818, the then Secretary of War, the Hon. J. C. Calhoun, in a report made in accordance with a resolution of Congress, made the following remarks regarding the ration: 'The substitution of bacon and kiln-dried corn meal in the southern divisions will have, it is believed, valuable effects; they are both much more congenial to the habits of the people in that section of our country.'"

At Camp Eagle Pass, Tex., in his January report, Assistant Surgeon H. S. T. Harris says: "The bacon issued is judiciously bartered for fresh meat and vegetables: but the salt pork commands no price, and is neither nutritious nor palatable, being composed almost entirely of fat, very little of which is needed in this climate."

In September he notes that deserters from the post claim that insufficiency of the ration was the cause of their desertion.

Cordilleras.—At Fort Union, N. Mex., in July, Surgeon P. J. A. Cleary reported that the beef was lean and tough. And the same report was made at Fort Apache, Ariz., in September.

At Fort Mojave, Ariz., in March, Acting Assistant Surgeon J. L. Ord recommended that fresh fruit and vegetables be purchased for the company mess. The recommendation having been repeated in July, the post commander said: "Nothing in the way of fruits and fresh vegetables can be had at this, the hottest post occupied by troops in the country. It is absolutely necessary for the health of my command that a limited supply, at least, of fruit and vegetables be obtained for the men and officers stationed here." Authority for the transportation of two barrels of fruit each week from Los Angeles to the Needles was requested. In November the post surgeon reported that a liberal supply of potatoes and onions was purchased with company and hospital funds, and that the necessary transportation was furnished by the subsistence department. It was suggested that this list be extended so as to include beets, turnips, cabbage, parsnips, and dried and fresh fruits, such as might be designated from time to time, to be purchased in the same way as the vegetables then being furnished.

At Fort McDowell, Ariz., in June, Acting Assistant Surgeon S. T. Weirick writes: "The ration is good, except the salt pork, which is rancid and soft, and although all measures have been taken to preserve it, it is not such as should be issued to troops."

At Fort Grant, Ariz., in June, Assistant Surgeon W. H. Corbusier says: "The men have subsisted almost exclusively upon bread and meat; a diet monotonous in the extreme, and not at all adapted to a semi-tropical climate. They had a few scanty messes of greens, but, until the day before yesterday, had not had any potatoes or onions for over a month."

COOKING.

Atlantic Coast.—At David's Island, N. Y., Surgeon J. V. D. Middleton, in his January report, notes: "The new mess hall may be considered a success. The food is admirably cooked by the steam apparatus, and well served. The whole command, numbering about 600 men, sits down to the table at the same time, and there is no confusion whatever. The railroad from the kitchen running through the hall in each direction is labor saving and of great convenience. A small force of less than a dozen men has been found sufficient to do all the work about the establishment. The chief cook, a hired man, seems to be quite competent, and the men receiving instructions under his direction will doubtless take with them to the Army a better knowledge of cooking than they could otherwise have acquired."

Great Plains.—At Fort Reno, Ind. T., in April, Assistant Surgeon J. Van R. Hoff says: "I have never been able to understand why the frontier garrison kitchens, which have fallen under my observation, are generally so illy supplied with essentials to good cooking."

In July he adds: "A more thorough knowledge of the Army cook-book, and an established bill of fare for each day, would do much toward raising the messing standard in the Army."

The post commander, in forwarding the July report, did not concur in the post surgeon's opinion that company messes should be restricted to a regular bill of fare, for the reason that market prices, and the facilities for procuring vegetables from post gardens, or by purchase, vary at each station.

At Fort Ringgold, Tex., in the sanitary report for November, Assistant Surgeon W. F. Carter sums up the advantages of a change from a company to a post mess as follows: "First, a more economical management of the ration. As a rule, I believe the larger the number of rations cooked the smaller will be the percentage of waste, and the more advantageously may the residue of a meal be carried over and utilized in the succeeding meal. Second, uniformity as to kind and quantity of food for all the men of a command. I have frequently noticed a great inequality in this respect in companies serving at the same post. I remember one instance in which a troop was almost in a state of mutiny because of poorly cooked and insufficient food. The other troop and company stationed with them were comparatively well satisfied. Third, greater convenience of inspection and supervision. Fourth, a simplification of the work of the subsistence department in its accounts with the troops—a less number of ration returns, issues made in bulk, etc., etc. Fifth, lessened cost of maintenance, after the first cost of providing a suitable building and proper cooking apparatus. In cases where ordinary large ranges could be used, as at a two or three company post, the cost to the Quartermaster's Department in ranges, cook-

ing utensils, etc., would be about as one to the number of companies present. Sixth, a reduction of company property in mess outfits, etc., and, as the latter are purchased from the company fund, there would be a lessened demand upon any fund accruing from sales of savings. Seventh, a reduction in the number of enlisted men required as cooks, orderlies, etc. Eighth, a simplification of the garden system. A single post garden, under one management, could probably be conducted at less cost of money and labor than a number of smaller gardens, or one for each company as now. Ninth, if the soldier were allowed the full benefit of his ration of flour, as he ought to be, the present post bakery could be abolished, and the baking of bread be done by the post cook or cooks. It is clear that the tendency is all in the direction of simplification. But the first and most important consideration is this: Would not the enlisted man be better fed, and if better fed would he not be more contented? I believe so, and that were this the case there would be fewer desertions.

"The arguments against the post mess are: First, that it takes from the company commander the right to personally manage and superintend the feeding of his men. This need not necessarily be the case, for means of redress may be provided through the commanding officer, a post council of administration, or a specially appointed board of officers, should he, the company commander, at any time have reason to think that his men are not being properly fed. But then, in every case his men would be faring exactly like the others, and any deficiency or bad management would not be more one company commander's grievance than the grievance of all, so that their combined influence might be brought to bear for the common good. As a matter of fact, in too many instances the duty of personally inspecting the company mess, cooking, etc., is perfunctorily performed. Second, that a means of general instruction in cooking would be lost to the company. I do not believe that any exigency is likely to arise which could make it necessary or desirable that all the men of a company should be cooks or even one-half of them, any more than that all should be instructed in the use of the litter. Quite a sufficient number from each company could be properly instructed, in order of detail, under the chief, or post cook. In this case the instruction would be more intelligently given, and better cooks would be secured. As for cooking in the field it must be remembered that the conditions here are altogether different from those in garrison. The mode of cooking the ration is different. When a soldier goes into the field he leaves behind him most of his uniform, his locker, his spring bed and mattress; and he also leaves behind him his risen bread and his fresh beef, and comes down to very simple food, such as the exigencies of the service will allow him to carry. Simple cooking will do here. Third, that it would tend to destroy the unity and *esprit* of the company, or tend to break down the distinctive company organization. But since in all other associations a company would remain the same, it is hard to see how it would suffer in these respects.

"Discontinue the issue of mess pork, and give its value in bacon or fresh vegetables; let the soldier have the benefit of his entire ration as food; make it impossible that he should in some instances be the sufferer by reason of mismanagement or inefficiency on the part of his company commander; in short give him all the benefits that are likely to arise from a common

mess properly conducted, under the commissary department, or a mess officer, or a council of administration, and I believe our ration would make a very nearly sufficient diet in every respect, and under all conditions. As the matter now stands, the ration at some posts is insufficient, and a fresh vegetable ought to be added. The men should not be obliged to contribute a portion of their pay to buy a needed article of food."

CLOTHING.

Prairies.—At Fort Totten, Dak., in his January report, Assistant Surgeon A. A. DeLoffre remarks that the clothing of the men is well adapted to the climate, with the exception of the underclothing, which should be entirely of wool. In May he says that most of the articles of clothing are of good quality and well suited to the climate, but that some might be improved upon, notably the undershirts and drawers, which are too warm for summer and not warm enough for very cold weather. In November he suggests that for the better preservation of the health of the command fur coats, caps, and gloves should be worn by the troops whenever it becomes necessary for the command to perform any military duty in the open air with the mercury ranging below 10° Fahrenheit.

At Fort Sisseton, Dak., in his December report, Assistant Surgeon J. L. Phillips states that the clothing issued to the enlisted men is excellent, with the exception of the canton flannel drawers, which, though of good material, he does not think are sufficiently warm for men compelled to be out of doors during the winter in that climate.

On this report the post commander makes the following endorsement: "While the canton flannel drawers now issued to the troops are good, and of sufficient thickness for summer wear here, and for the entire year in such climates as that of Texas, they are entirely too thin for the long cold winters of Dakota, where the mercury stands most of the time below zero, and sometimes reaches over forty degrees below. A majority of the men are now wearing two pairs of drawers at the same time, which is both inconvenient and expensive."

In the sanitary report of Fort Gibson, Ind. T., for the month of January, 1888, Assistant Surgeon C. N. B. Macauley makes the following statements and suggestions bearing upon the subject of the clothing of the troops: "During August and September of 1887, while on duty at this post, I had a few opportunities of observing the effect of the hot weather on the officers and men of this garrison. While, of course, my observations were to a certain extent limited and superficial, they still had a bearing on the health and comfort of troops serving in these latitudes. Although there are two months before the severely hot weather sets in, I very respectfully submit the following recommendations as to a suitable uniform for troops serving in hot climates. * * * The color of the uniform at present issued to the men, by allowing the heat-rays to pass through, adds to the discomfort of clothing that is largely composed of wool. During the extreme heat of last August I tried, by wearing the thinnest blue serge obtainable—serge thin enough to let the air play through—to clothe myself according to regulations, and at

the same time to keep cool, but I found the latter impossible. At the same time some of the other officers, while retaining their uniform trousers, wore jackets made of the same stuff as the old bed sacks. They did not suffer from the heat to the same degree that I did, although they were out and about as much as I was, if not more. They also wore straw hats, while I wore the regulation white helmet, which, although as cool as the straw where the head proper is concerned, is much heavier, and by reason of its faulty construction, does not give the same protection to the face, ears, and neck. When any of the officers were on duty, at drills, etc., they wore the regulation cap and blouse, which were very quickly changed for the straw hat and bed-sack jacket on their return to their quarters.

"The brown linen that I would recommend for issue to troops in low latitudes is easily washed, does not soil easily, is nearly the color of the earth even after repeated washings, its weight is almost nothing, and its cost very low. The color (when new) is very little darker than the ordinary "pongee"—a light coffee color. * * *

"Helmet: White, or covered with the same material that the clothes are made of. The body might be pith, such as is worn in India, which is very light, but has the disadvantage, I understand, that rain will reduce it to a pulp which swells enormously; still helmets of that kind are used at sea in low latitudes by officers of our Navy. If pith is not deemed suitable, stiffened canvas would be very little heavier. Around the outside, where the body joins the brim, a "puggaree," or thin veil of grey stuff, is fastened. In front, behind, and on both sides, a loop of canvas is riveted, and buttons from below up. The standing ends of these loops should be fastened to the helmet, just below where the puggaree is sewed on, by two light rivets, sewing being liable to cut out. The helmet should have sufficient brim in front and on the sides to protect the eyes and ears, and should dip low enough behind to protect the nape of the neck.

"The helmets now in use do not begin to do this. At the point (on top) where the four seams of the covering material would meet, a small immovable dome should be fixed. This should have a number of semicircular apertures around its lower edge.

"The inside of the helmet should have particular attention paid it. The ventilator should be one inch wide and perforated as much as is compatible with strength. There should be also an air space between it and the body of the helmet fully one inch in the clear. This would make a space large enough to give a free circulation of air without the likelihood of the back part being blocked up by a thick head of hair. Nine-tenths of the present white helmets have so small a ventilating space that hair of ordinary thickness checks all draught.

"This helmet can be made very light and much more comfortable than a straw hat; there is no metal about it, except the 4 buttons and 8 small rivets required for the puggaree straps. The helmet recommended is the same for all officers and men. If it is desirable to have a device to distinguish the different staff corps and arms of the service, the present forage cap device, moulded in imitation jet, or gutta-percha, can be used; the latter, without being much heavier, would be much stronger. The device should be black, and bent to fit the convexity of the helmet, and should be placed just above the button that holds the front strap of the puggaree.

"The puggaree should be made of the lightest kind of grey veil material. When fastened in its place on the helmet, where the brim and body meet, it should fall low enough to permit the wearer to tuck it under his blouse collar, and still be loose enough to permit the head to move freely without danger of the veil being pulled out. In mosquito time it would take the place of the present head net. When looped up in front it would still assist the low lipped back of the helmet in protecting the back of the neck from both the sun's rays and insects. It may be said in objection to this veil that it would be very hot, and prevent a free circulation of air: but the amount of air cut off is very small and, in spite of that, I do not believe there is one man in ten who would not suffer more from insect bites than from the very small degree of heat engendered by the puggaree. My present experience with puggarees of much heavier material than is here recommended is that, so far from being uncomfortable, the protection afforded the nape of the neck is exceedingly comforting, and I do not notice that I suffer any more from heat than I did before the device was worn. The head net, which is vastly more uncomfortable and unsightly, besides being inconvenient to carry around, is gladly worn. When the puggaree is rolled up it is practically taken off.

"Blouse for all enlisted men: The blouse should be made of brown linen, in the form of what is known as the 'Norfolk' jacket. It should have two pleats on each side, before and behind. At the height of the pectoral muscles, under and parallel to the inner pleat on both sides, a pocket should be inserted. On each side, below the waist, should be a horizontal pocket, protected by a flap and button. The upper edge of the flap should come below the lower edge of the waist belt. These pockets will hold a great deal without spoiling the fit of the jacket, as the coat is loose. In the field the breast pockets can be used for extra ammunition without discomfort. There should be no belt, properly speaking, other than two straps behind. These tags are recommended instead of the belt, because they confine the jacket to the body without interfering with the circulation of air, as I have found the full-length belt to do. The buttons, five in front as at present, could be of black gutta-percha, made on the model of the brass button, or they might be the regulation brass button. In either case they should be provided with split rings, or 'toggles,' so as to allow of their being taken off when the garments are to be washed. All other buttons should be of common bone, which will stand washing. On the cuff I would recommend a simple tag, made like one of the parts of the semi-belt on the back of the jacket, to fasten the two bone buttons which are secured to the sleeve. These could be used in the field at night, when desired, to prevent insects from crawling up the arms. The chevrons and trousers stripes of non-commissioned officers can be made of tape, the color to be that of the soldier's arm of the service. Tape will wash with the clothes, and I believe tape dyed in fast colors, which will stand washing, can be obtained.

"Blouse for all commissioned officers: This should be made the same as for all enlisted men with the following additions: The seam which runs down under the arm should be slashed high enough to permit of the sword being hooked up, the belt being worn *under* the blouse. This slit should be trimmed with dark brown washable braid, about one and one-half inches wide. Around this broad braid, at a distance equal to its breadth,

could be put a narrow braid three-sixteenths of an inch wide. The officer's rank can be shown on the cuffs by dark brown braid loops, three-sixteenths of an inch wide, laid on the same as on the overcoat. As there is no braid on a second lieutenant's coat sleeve, the braid of a first lieutenant, without the two small loops, might be adopted. The two back seams of the jacket should be covered with a single width of the same tape, or braid, that is used on the slash; this also to be bound outside with tape three-sixteenths of an inch wide.

"Trousers for all officers and enlisted men: To be of the same material as the jacket, and made to fit the thigh snugly, but at the same time loosely enough to allow of a free circulation of air. The stripe of the different arms of the service could be retained, as I said before, if made of tape dyed in fast colors. This would be necessary to some extent for officers, as the tape on their blouses should be dark brown for all staff corps and arms.

"Gaiters or leggins: I would recommend the adoption of gaiters or leggins, to be worn on and off duty, in garrison or field. Their use would prevent woodticks, fleas, and other vermin, crawling up under the trousers legs, and beside, by confining the trousers to the leg, would make walking much more comfortable. The gaiter should be made of brown linen or light duck, and should spread out over the foot, being held down by a leather strap under the instep, and should reach half-way to the knee. Buttons would probably be better than lacing to keep them in place, and should be fastened with split-rings or 'toggles.' The leggins could be made the same as the gaiters, except as to length, and would probably be preferable to the gaiter for mounted troops. * * *

"This uniform, when washed, should *not* be starched; it is believed that a sufficient degree of smoothness can be given, if the garments are ironed while damp, not wet. * * * I would further recommend that, if such a uniform should be adopted, the issue should not be confined to troops in low latitudes. During my service in the department of Dakota, I have suffered quite as much from heat as I have down here, but, of course, during a much shorter period. At Camp Poplar River, Mont., the signal observer's thermometer registered 110° Fahr., in the shade, in July (I think) of 1886. While that degree of heat is exceptional, it does occur, and troops should be properly clothed to meet it. The hot season is not as long in the northern departments as it is here, nor quite so intense, but the contrast with the winters makes the heat seem much greater than it is, and men suffer just as much.

"The puggaree herein recommended would be of immense service in the northern departments as a protection against mosquitoes, which are so thick that I have known officers and men of a command (Fort A. Lincoln, Dak., 1885) to become fit subjects for the sick-list, merely from the attacks of these insects."

Great Plains.—At Fort Shaw, Mont., in January, Assistant Surgeon G. F. Wilson stated that the fur coats and gloves issued to the men had added greatly to their health and comfort.

At Fort Maginnis, Mont., in his May report, Assistant Surgeon H. O. Perley says that the clothing is of good quality, and the allowance, except of blankets, is sufficient; that men serving in that cold climate should be

allowed four blankets, and that to supply the deficiency in the present allowance they resort to the use of such makeshifts as robes, canvas, etc.

At Fort Reno, Ind. T., Assistant Surgeon J. Van R. Hoff in his sanitary report for May remarks: "The clothing issued to the enlisted men is generally good, though too heavy for this summer climate. The soldier who conforms to regulations can not be comfortable, and consequently is by so much less efficient. That the subject of the shoes now being issued has been freely discussed, and apparently settled, makes it not one whit less unjust to the enlisted man who is compelled to purchase these shoes at a price far beyond their real value. Whatever means may have been taken to improve the quality of the shoes to be issued in the future, the fact remains that the foot wear on hand at this post, or so much of it as is defective, should either not be issued at all, or else issued at a greatly reduced price."

In July he adds: "The clothing is excellent in quality and variety, but yet does not quite meet the requirements of the varied climate of our country, as evidenced by the fact that the prescribed uniform, in almost every garrison, is departed from to a greater or less extent. I have often thought that the brown linen trousers used by the German soldier would form a desirable addition to our already, in many respects, ample clothing list."

At Fort Ringgold, Tex., in the sanitary report for August, Assistant Surgeon W. F. Carter writes that he is more than ever convinced that a change in the character of the clothing supplied to troops serving in the south and south-west is a pressing sanitary necessity, and says: "There can be no question that a light, white duck or cotton, uniform would conduce to the health of the men. Exposure to the sun is more or less necessary in the performance of military and other duties, and clothing of a texture and color best calculated to absorb and retain the heat must be oppressive and prejudicial to the health of those compelled to wear it. My experience in this climate teaches me that the women about a garrison enjoy to a remarkable degree an immunity from the fever which seems peculiar to our south-west section, and I think this immunity is due greatly to the cooler manner in which they dress, as well as to their in-door life. I earnestly recommend a light, white duck or cotton, undress uniform; light cotton, or mixed cotton and wool underclothing, canvas shoes, and a white helmet made upon the same principle as that of the helmet now worn, except that the brim should be longer behind and in front, so that it will better protect the back of the neck and face."

Cordilleras.—At Fort Mojave, Ariz., in June, Acting Assistant Surgeon J. L. Ord recommended that the enlisted men be supplied with light clothing suitable for that climate during the summer months, and suggested light canvas suits as the most durable, and the best for a temperature so extremely hot and enervating, the thermometer having already shown 121° in the shade, and 140° in the sun, during the month for which the report was made.

At San Carlos, Ariz., in July, Acting Assistant Surgeon T. B. Davis notes that the clothing issued to the enlisted men is entirely too heavy for summer wear in that climate, and says that in such an excessively high temperature, it is impossible for the men to wear the proper uniform, and perform the necessary garrison duty, without great discomfort.

At Fort Grant, Ariz., Assistant Surgeon W. H. Corbusier remarked that the helmets were too heavy.

At Fort Huachuca, Ariz., in June, Assistant Surgeon L. Wood reported that the regulation clothing was unfit for that climate, and that its use was avoided by the men as much as possible.

Pacific Coast.—At Fort Canby, Wash., in his January report, Assistant Surgeon C. E. Munn recommends, on account of the almost constant exposure to rain-fall during the winter months, that special water-proof over garments and gum boots be added to the soldier's fatigue suits. In forwarding the report the post commander remarks: "The annual rain-fall at this post is from 60 to 70 inches, the whole falling between the months of November and April. The above recommendation has been previously made by a former post surgeon, and is now repeated for the consideration of the higher authorities. The fatigue clothing at present issued is not water-proof, and the wearer is constantly wet when performing the ordinary fatigue duties of the post."

At the Presidio, San Francisco, Cal., in November, Surgeon H. R. Tilton advised that officers and enlisted men be permitted to wear water-proof outside clothing during the rain storms, which would be of frequent occurrence during the winter, for the reason that woolen overcoats and capes soon get saturated and fail to afford the necessary protection. He expressed the opinion that it would increase the sick-list to neglect the proper protection of the person during drenching rains, and stated that there was, at the date of his report, a decided tendency to acute catarrhs, and that the appearance of pneumonia was to be feared.

WATER SUPPLY.

Atlantic Coast.—At Fort Schuyler, N. Y., it was reported that the water from the tank-house was frequently brackish and unfit for cooking or drinking purposes; and at Fort Wood, N. Y., in September, that the only water available was the rain-water collected from the roof of the barracks, and that this was often impure, as shown by the fact that, after a heavy rain-fall, diarrhœa invariably prevailed among the troops.

At Fort Monroe, Va., an outbreak of typhoid fever having been reported, an examination into the probable cause of the disease made by Surgeons Sutherland and Brooke, led to the suspicion that the drinking water obtained from the large cisterns might be contaminated by the privies in their vicinity. Samples of the water from the driven wells, and from the cisterns, were submitted to, and analysed by, Acting Assistant Surgeon W. W. Mew, the chemist of the Surgeon General's Office, who reported that the general supply, obtained from the driven wells, was a good wholesome water; that there was no evidence of pollution of animal origin in the cistern water, and that the existing impurity was probably of vegetable or atmospheric origin, or both.

Surgeon Sutherland, referring to this analysis, said: "The report of the analysis of the cistern water by the examiner at Washington is qualified by the expression of the opinion that this water may hold an impurity of a vegetable or atmospheric nature. Unless some other cause is hereafter discovered to explain the origin of the fever at Fort Monroe, we must as-

sume this water to be at fault, and chargeable with the outbreak of the disease. Typhoid fever is a filth disease, and transmissible in water. Cistern water, all things being equal, should be the purest of drinking water; but cisterns lose their excellent character almost as easily as some wells and streams, if not watched. * * * These cisterns should be overhauled and made ready for the possible appearance of cholera. Situated as they are, close to the sinks, a very small fissure may allow of the entrance of disease germs which chemical analysis would fail to detect. The sinks are located in a sandy soil, greedily absorbent, and there is very little reason to doubt that the ground in their vicinity is in a thoroughly vitiated state."

Eastern Timbered Plains and Hills.—At Fort Myer, Va., in January, the post surgeon reported that the supply of water was sufficient for all ordinary purposes, but that, owing to the smallness of the supply pipe, it was not furnished to all the buildings in sufficient quantities. He stated that in the hospital particularly the water was frequently entirely shut off, and, the supply not being sufficient to flush the water-closet, the building was filled with the foul odor of the closet.

Northern Lakes.—At Fort Mackinac, Mich., in August, Assistant Surgeon C. E. Woodruff said, concerning the spring from which the water supply of the post was obtained: "The spring which supplies the garrison with water is itself open to suspicion. It is at the foot of a high hill upon which are the officers' quarters, and behind these quarters are the cess-pools and pits for drainage. Impurities from these sources always find their way into the subsoil drainage, and are carried considerable distances; the hill would naturally lead them into the spring. The water appears to be pure and wholesome, and no recorded cases of disease can be traced to its use, but the suspicion of impurity leads me to recommend that all the water for the post be pumped from some portion of the lake where there is a constant current, and where no drains or sewers from hotels or houses empty."

At Fort Wayne, Mich., in November, Surgeon H. McElderry called attention to the fact that the source from which the drinking water was supplied was the Detroit River just below the city of Detroit, which has a population of about 160,000, and said: "The water obtained from this source is apparently of good quality—that is, I know of no case of disease occurring at the post which can be attributed to the drinking water; but, in case any epidemic disease, such as typhoid fever or cholera, were to break out in the city of Detroit, it would be necessary to cease drinking water taken from its present source, as no filter, and no amount of dilution, can be relied on to keep out the germs of such infectious diseases."

Central Timbered Plains and Hills.—At Jefferson Barracks, Mo., in his March report, Surgeon E. McClellan remarks: "The water supply of the depot has become a matter requiring careful attention. Water is now furnished directly from the river, and has been so furnished very frequently for the past six months. The well upon the bank of the river, at the pump house, from which so much was expected, and which in the spring of last year promised so well, has become practically useless, being so full of mud from deposit from the river that water cannot be drawn from it."

Prairies.—At Fort Pembina, Dak., the post is supplied with water pumped by steam from the Red River into an elevated reservoir, and carried thence by pipes to the rear of all the buildings. Assistant Surgeon W. E. Sabin.

in several sanitary reports, stated that it was of good quality. The post commander in June condemned the water as foul and unfit for drinking purposes, and stated that the officers used melted ice or filtered water.

At Fort Sisseton, Dak., in May, Assistant Surgeon J. L. Phillips reported that the supply of water in the cistern was becoming scanty, and recommended that water in sufficient quantity for laundry use, scrubbing, etc., be hauled from some one of the lakes near the post, and that the water in the cisterns be used only for drinking and cooking purposes. In this way he thought it possible to avoid hauling water during the summer from Clear Lake, 9 miles distant. It was stated that, in case the cistern became exhausted, this lake furnished the only potable water in the vicinity.

At Fort Sully, Dak., in his August report, Surgeon C. De Witt writes: "The water is obtained from the Missouri River, is hauled over a sandy road, and up a steep hill, to the post, in a water tank drawn by 8 mules, and from the tank is put into barrels at the different quarters and barracks, and at the hospital. This service requires one driver and three men. * * * Unless the barrels are frequently cleaned they become offensive, and contaminate the water. A system of supply, by which water shall be distributed in pipes throughout the post, would not only add greatly to the convenience and comfort of its occupants, but would be invaluable in case of fire."

At Fort Riley, Kans., Surgeon S. M. Horton, in his sanitary report for January, says: "The supply of water is abundant. * * * I have made two tests of this water, and the chemist at Washington has made three analyses, and we both have found in it a large proportion of organic matter, the chemist finally reporting to the Surgeon General 'that this water, if not certainly bad, is at all events of doubtful purity.' If this post is to be garrisoned by a command much larger than the present one, the subject of the water supply will become much more serious than it is now. There is grave reason to fear the results of using it during the coming summer for drinking and cooking purposes, and it is urgently recommended that measures be taken to secure water from another source, either from springs on the reservation, at a distance from the post, or from an artesian well. Twenty-one cases of diarrhœa and dysentery have been on sick report within the last thirty days, 5 of these being in hospital now. How to account for the prevalence of so much disease of the stomach and bowels, unless it is caused by the water used at the post, I do not know."

In August another analysis of water was made. The following is an extract from the report of the chemist of the Surgeon General's Office: "The increase by nearly 100 per cent. in the amount of chlorine, is, under the circumstances, the most serious matter for consideration, and it is highly important that its source be determined. It is barely possible that it has its origin in the soil, though in the presence of a rather high percentage of albuminoid ammonia, and considerable nitrates, the most probable inference is that it is due to pollution. Steps should at once be taken to ascertain its source, and freedom from pollution should be most firmly established before the use of this water can be considered safe."

A board of officers was convened at Fort Riley in February and reported as follows: * * * "The board finds that the location of the pumping well, the result of the chemical examination of the ground water independ-

ent of locality, the excess of diarrhœal diseases coincident with the introduction of the new water service, and the practically complete exemption of the one company that used cistern water, all tend to discredit the well-water for internal use. The board is therefore of the opinion that its probable character condemns this water."

Great Plains.—At Fort Assinniboine, Mont., in February, Acting Assistant Surgeon F. J. Adams said: "I am strongly of the opinion that the cases of diphtheria, typhoid and remittent fevers occurring every spring at this post owe their origin entirely to contamination of the water. Several lodges of Indians with their families have been encamped on Beaver Creek, and notwithstanding the fact that some were ordered off, others (two lodges I believe) were not sent away. * * * The first cases of typhoid fever and dysentery at this post occurred after the Cree Indians encamped on the creek. I would recommend that great care be taken to prevent their camping on Beaver Creek above the dam."

At Fort Meade, Dak., the post surgeon having reported the water to be bad, the Medical Director of the department urged that measures be taken to purchase the land containing the McMillan spring, from which a satisfactory supply could be obtained.

At Fort Niobrara, Nebr., in February, Surgeon H. Lippincott reported that the supply was becoming impure, and that the post could not be furnished with good wholesome water during the summer under the existing system.

At Fort Laramie, Wyo., in September, Assistant Surgeon A. W. Taylor reported that the water was poor in quality, and said: "I have made several examinations of the water of the well which supplies the post, and have in each instance found that it was contaminated. * * * I have, as well as the imperfect resources at hand would permit, found in the water evidences that it is polluted with the drainage of a part of the post. * * * During the month there has occurred a large number of fever cases of a mild typhoid character. I feel sure that the great amount of sickness that now prevails here is due to this pollution of the water supply."

In the sanitary report of Fort Supply, Ind. T., for October, Assistant Surgeon J. L. Powell remarked the material improvement of the health of the post due to the sanitary measures adopted, and stated in regard to the water supply: "For the past three years or more this supply has been obtained from driven wells situated in close proximity to the post corral and cavalry stables, and in the midst of various quartermaster's buildings, etc. These wells are pumped by an engine, which collects the water in a reservoir on a neighboring elevation, from which it is distributed in pipes throughout the garrison. It is hardly possible to conceive of a site within the garrison or its vicinity that would have been more unsuitable for the purpose for which it was selected. * * * With a view to obtaining the safest and best water supply for all purposes in the garrison, I have made an examination into all the sources in the neighborhood, and have found a short creek, about one and a half miles distant, which yields the least amount of solid residue of all the samples examined, and is, at the same time, less liable to pollution than any water in the neighborhood of the post. On evaporation, this water yielded but fourteen grains of solid residue to the gallon. The source consists of a number of springs, in close proximity to each other,

which emerge from a bed of silicious sand, and unite to form a bold and rapid stream that has never been known to go dry." He recommended that measures be taken to supply the post from this creek.

At Fort Reno, Ind. T., in the sanitary report for August, Assistant Surgeon J. Van R. Hoff says: "The water supply should be obtained from the river alone, since the soil pollution heretofore spoken of tends to the contamination of the well-water. Moreover, several of the wells heretofore abandoned are now used as cess-pools. As it is reasonable to presume that there is an intimate connection between the water of all these wells, I would respectfully recommend that all be closed. The tanks for storage of river water should be frequently and thoroughly cleansed. Much of the sediment which now appears in this water would probably be excluded if the tanks were covered, instead of being left open to collect the constantly flying dust. I have heretofore had the honor to recommend that all drinking water be filtered. Water is so important a factor in the transmission of disease that every precaution should be taken to guard against its contamination."

At Fort Bliss, Tex., Assistant Surgeon S. G. Cowdrey reported that the supply was entirely too limited for the comfort and health of the command, that it was pumped much of the time by hand, and that there were not enough water barrels to allow of properly settling the water taken from the river. In his sanitary report for September he says: "The fevers now prevailing here are of a very severe type, due, as far as can be learned, to the scanty and filthy water supply. I desire to emphasize the necessity for immediate attention to this matter. * * * If this old style of water wagon and barrels must be continued here, I would respectfully recommend that a second new windmill, more tankage, and more barrels be at once furnished. Fifteen water barrels asked for five months ago have not yet been received. The two companies and the band have, each, four barrels of unsettled water for scrubbing, cooking, and drinking purposes, and two barrels of muddy water for bathing purposes, daily."

In forwarding the report Surgeon E. P. Vollum, Medical Director of the department, remarks: "Complaints of the poor quality and insufficiency of the water at Fort Bliss have reached this office quite often during the past year. At present it is the most unhealthy post in the department, there being on sick report 5 cases of typhoid fever, and 4 cases of remittent fever, all of a severe type, in a mean strength of 115 men. The great amount of sickness during the past two months is to be attributed to the bad quality and insufficiency of the water used for drinking and domestic purposes. I concur in the opinion of the post commander that windmills can not be relied upon to furnish an abundant supply of water, and that a small steam-engine should be substituted therefor."

At Fort Ringgold, Tex., in April, Assistant Surgeon W. F. Carter reported the drinking water to be excellent, but said: "The water for bathing is merely liquid mud. I understand that estimates for new water tanks have been disapproved. Filters of gravel and charcoal, or sand and gravel, might be placed between the tanks, connecting them, and freeing the water of at least a portion of its mud as it flows from tank to tank. The boiler attached to the engine at this post lacks the power to do all that is required of it; it is a constant struggle to keep enough water in the tanks to supply

the needs of the post. Owing to the small size and general bad condition of this boiler we are in constant danger of being left without water. From a sanitary point of view, the supply of water for bathing, etc., should be plentiful and constant."

In July, Assistant Surgeon Carter enclosed in his sanitary report a comparative tabular statement of cases treated during the first six months of 1886 and 1887, from which it appears that the monthly admission rates for intermittent and remittent fevers during the latter period were less than one-half of those for the former, and that the cases were of a much milder character, as shown by the greatly diminished average duration of treatment for each. It also appears that the monthly average of admissions for diarrhœal diseases for the first six months of 1887 was only about one-twentieth of that for the corresponding period of the previous year. This marked improvement in the health of the troops is ascribed chiefly to the discontinuance of the use of the Rio Grande water for drinking purposes, and the substitution therefor of water distilled at the post by means of an apparatus operated in connection with the boiler, which furnishes power for the pump and other machinery.

In connection with this subject, in September, he further remarks: "I presume no military station in the country has as perfect a drinking supply as has Fort Ringgold. It is a palatable water, of the greatest attainable purity, is sufficiently abundant for a much larger garrison, and involves no cost to the government, *i. e.*, no cost additional to that incident to running the machinery for other purposes. It is hoped that the adoption of this system will become general at Army posts in the west and south-west."

At Fort McIntosh, Tex., in August, Assistant Surgeon H. S. T. Harris, finding that the water used at this post (Rio Grande water filtered through the soil) is more or less impregnated with organic matter, recommends that an apparatus for the distillation of drinking water be erected.

Cordilleras.—At Fort Lewis, Colo., in July, Assistant Surgeon T. A. Cuningham reported that the water supply was full of organic matter washed down by the heavy rains, and that, during the summer, the drinking water should be filtered and boiled, and then cooled with ice, before being used.

At Fort Bayard, N. Mex., in July, Assistant Surgeon W. D. Dietz said: "The water supply, which during the winter months is ample, proves to be inadequate at this dry season of the year; the demand is increased while the supply is diminished. The creek, which was utilized in irrigating the company gardens, has run dry, and the gardens suffer accordingly. The water supply of the post is furnished by a spring and a well, the former giving 7,000, and the latter 8,000, gallons per day. Fifteen thousand gallons of water are insufficient for the daily needs of the garrison; 30,000 gallons are actually required, and even that quantity would not afford a margin for use in the emergency of fire. The quartermaster contemplates sinking a well in the valley near the post, and from this well running drifts across the valley. As it is claimed that the valley abounds in subterranean streams, it is expected that enough water to supply the demand will be obtained."

At Fort Grant, Ariz., in June the water supply became very scanty.

At Fort Huachuca, Ariz., in July, Assistant Surgeon L. Wood reported that the water from a sunken tank was not good, and added: "I base my esti-

mate of the condition of the water, not upon an analysis, having no means of making one, but upon the fact that in a few days after the heavy rains, which overflowed the tank, a large number of cases of acute diarrhœa accompanied by vomiting appeared, not only among the enlisted men, but also among the officers. The subject was then represented to the commanding officer, and that portion of the supply cut off; this was followed by the sudden diminution of the cases above mentioned. About a week later this water was again turned on, and the same trouble again appeared, though not to so great an extent, probably on account of the absence of so large a percentage of surface water, there having been much less rain. I am of the opinion that means should be taken to prevent the overflow of surface washings into the tank, which has been constructed in such a position as to render this overflow certain to follow heavy rains."

Pacific Coast.—At Vancouver Barracks, Wash., in June, Assistant Surgeon H. S. Kilbourne reported that the quality of the water supplied by the Vancouver water company was excellent, but the quantity was then, and had been frequently during the year, insufficient to meet the requirements of the garrison.

At Fort Gaston, Cal., in June, Assistant Surgeon A. S. Polhemus noted that the supply of water was occasionally deficient at the post hospital, and at some of the officers' quarters, owing to the smallness of the delivery pipe the supply becoming exhausted before reaching the end of the line.

At Benicia Barracks, Cal., in June, Assistant Surgeon C. K. Winne reported that the water supply was barely sufficient during the month for ordinary purposes, as no water had been supplied by the Benicia water company, and the garrison had to rely on the stored rain-water and on well-water. In July the supply was reported to be sufficient.

BATHING FACILITIES.

Prairies.—At Fort Concho, Tex., Assistant Surgeon C. M. Gandy, in his June report, recommends that a room be arranged as a bath-room for the men, and that, if practicable, a box or tank be constructed therein sufficiently large for a small swimming bath, and provided with an inlet pipe from a hydrant, and an outlet leading to the ditch. He says: "This plan would, I believe, prove quite as economical as the furnishing of a number of small tubs. At present the men bathe in the river, rushing down and entering the water while heated, and remaining for a longer or shorter period with bared heads and nude bodies, exposed to the sun's fiercest rays."

Great Plains.—At Fort Custer, Mont., in February, Assistant Surgeon C. E. Price remarks: "The personal hygiene of the command is unsatisfactory. Judging from the appearance of the men when admitted into the hospital, I conclude that some of them have not had a bath since cold weather has prevented river bathing. The men, not appreciating the importance of bathing, are less to blame in the matter than the Government, which does not provide proper facilities. It is hard to induce men to bathe when it must be done in an uncomfortable and public room."

The post commander, in forwarding the report, notes that estimates have repeatedly been made for a bath house, but that no favorable action has

been taken. He thus describes the arrangements for bathing in use at this post: "Each company and troop, and the band, has a room, or enclosure, set apart for bathing and washing, with a stove and a large farmer's boiler for heating water. This is all that the post affords."

At Fort McKinney, Wyo., the lack of bathing facilities was a constant cause of complaint during the year. In July, Assistant Surgeon D. Weisel says: "The water in the creek is too cold, even in midsummer, to bathe in, and with the imperfect facilities now afforded it is only with very great difficulty that the men get their regular bath."

In his report for August he adds: "The sanitary condition of a military post can never be pronounced excellent, much less perfect, until suitable bathing facilities are provided for both officers and men. In the Army, whose members should be in a physical condition as nearly perfect as possible, toward which nothing contributes so much as the regular bath, it is surprising that the providing of suitable bathing conveniences is so generally neglected. No argument is necessary to prove the importance of bodily cleanliness to the preservation of health. It has been said 'uncleanliness produces immorality and crime; beclouded faces drive men from the light; and darkness breeds dangers of all kinds.' In all cities public baths are now very generally provided for the poor, and yet, in all my service, I have never been at a military post where there was a bath-room of any description in any of the officers' quarters, or where the enlisted men did not get their bath in some make-shift way, at great disadvantage and inconvenience, and frequently at their own expense. These remarks fully apply to this post."

The post commander, in forwarding this report, invites attention to, and concurs in, the post surgeon's remarks, and adds: "That sixty men, some diseased and some healthy, should be compelled to bathe in the same bath tub, is not only a disgrace to the Government, but an outrage upon the enlisted men. It is hoped that some notice will be taken of this matter by superior authorities, and that an effort to remedy so great an evil will be made."

The general commanding the department of the Platte, in his endorsement on this report, says: "There is a general lack of bathing facilities at almost every post in the department, which I can not but regard as deplorable."

At Fort Reno, Ind. T., in his April report, Assistant Surgeon J. Van R. Hoff says: "The facilities for ablution are entirely inadequate. Suitable bath houses are so necessary, and can be so cheaply constructed, that they certainly should be furnished in abundance, and every encouragement given the enlisted men to use them. When men are so closely aggregated, cleanliness is the first requisite to health.

At Fort Clark, Tex., in April, Surgeon B. F. Pope remarks: "The bathing facilities afforded the men appear to be good, although a single tub for each company is hardly enough to enable every man to take one bath a week. From the appearance of the patients admitted to hospital, I judge that the use of the body bath is by no means as general as it should be."

Cordilleras.—At Fort Thomas, Ariz., in September, Assistant Surgeon E. R. Morris reports that bath houses, properly heated for the winter, and supplied with bath tubs, are the greatest present sanitary need of the post.

In October, Acting Assistant Surgeon A. P. Frick urgently recommends that bath tubs be supplied. The post commander adds: "Estimates for bath tubs have frequently been made, and as often refused. It is very necessary to have bath houses, as well as tubs, and at this post these conveniences are probably more necessary for the health of the troops than at any other post in the department."

DISPOSAL OF NIGHT-SOIL.

Atlantic Coast.—At Watertown Arsenal, Mass., in November, Surgeon J. C. McKee, in an extended special sanitary report, condemned the system of privy vaults and cess-pools which had been in use at that station for many years, and by which the soil had become saturated with putrid organic matter to a most dangerous extent. Surgeon McKee closed his report with the following remark: "The inmates of this garrison are living over a mine of disease that may explode at any time, and bring grief, dismay, and death into any or all households, as it has already done into one. Further hesitancy and delay on the part of those in authority after this warning will not only be reprehensible, but actually and absolutely criminal." In later reports he states that a system of sewer pipes is being laid to empty into the Charles River.

At Fort Monroe, Va., in October, a special sanitary inspection was made by the Medical Director of the department, Surgeon C. Sutherland, who reported that in some of the privies used by the men the seats were located over iron troughs, which were emptied and flushed once daily. These sinks were said to be extremely offensive in hot weather both in appearance and odor, and it was recommended that new closets be built conveniently near the barracks of the enlisted men, and that they be constructed on the most approved plan, with comfortable single seats, proper sewer connections and ventilation, and an apparatus for flushing them automatically with salt-water, thus doing away entirely with the old-fashioned trough and its repulsive features.

Northern Lakes.—At Fort Brady, Mich., in April, Assistant Surgeon G. W. Adair reports that the dry-earth system is in use at that post, and says: "This is probably the best practicable system, but to get the best, or even good, results from it two things are necessary—the boxes must be tight, and the earth must be dry. Dry dust from the roadways is the very best covering, adhering readily to all moist surfaces."

At Madison Barracks, N. Y., in December, Assistant Surgeon E. T. Comegys stated that the privies were located at such a distance from the quarters that the men using them were compelled to expose themselves in stormy weather, while in warm weather, notwithstanding the free use of deodorants, and frequent removal of receptacles containing excreta, it was impossible to prevent the atmosphere from becoming impregnated with noxious effluvia. He recommended that the privies be replaced by water-closets.

Central Timbered Plains and Hills.—At Jefferson Barracks, Mo., in October, Surgeon E. McClellan writes: "The entire sewage of this depot is now emptied into the Mississippi River below the limits of the barracks. This was supposed to have been accomplished at an earlier date, but about a

year ago it was discovered that it had not been entirely, owing to faulty plumbing work, which was at once rectified. At every point at which sewers enter the barracks or other buildings ventilating shafts have been erected. All soil pipes within buildings have been continued in the most direct lines above the roofs. All interior water fixtures have been trapped and ventilated. The use of the deadly pan water-closets has been discontinued, and they have been replaced by an improved sanitary closet. Stationary wash-stands have been abandoned as far as practicable, and those continued in use are carefully guarded."

Gulf Coast.—At Fort Brown, Tex., in November, Assistant Surgeon S. Q. Robinson recommended the adoption of the earth-closet system, and, in referring to a company commander's request for disinfectants, he remarked: "Disinfectants are not substitutes for care and cleanliness; the earth-closet system, properly attended to, renders their use seldom necessary, unless such diseases as dysentery, typhoid fever, or cholera are prevalent."

Prairies.—At Fort Pembina, Dak., in May, Assistant Surgeon W. E. Sabin writes: "Excrement is deposited in holes dug of the usual size and depth, and when these are filled the privy building is moved to new ground, the old site being covered with dirt. From repeated removals during the several years the post has been occupied the ground in rear of the company quarters has been pretty generally defiled, and the question of other means of disposal of night-soil seems to be imminent."

At Fort Leavenworth, Kans., in January, Surgeon A. A. Woodhull calls attention to defects in certain water-closets and says: "The trap is 6 or 8 feet from the bowl, which is of the old pan pattern, and the intervening pipe is consequently a receptacle for matter from which offensive gases may escape upward. The old pan closets are objectionable in every sanitary respect, and should be replaced as rapidly as possible. It is always better, if the bowl and connecting pipes are not constantly exposed to view, to have the wood-work at the front of the seat arranged to open at will."

In the April sanitary report he comments on the offensive condition of some of the old privy vaults at this post, and recommends that they be disinfected, or filled up and covered over. Concerning this recommendation Surgeon C. Page, the Medical Director of the department, says: "It is better that the contents of the vaults be disinfected and removed to a safe distance from the post, and that the vaults themselves be then filled with clean earth."

Great Plains.—At Fort Assiniboine, Mont., in February, Acting Assistant Surgeon F. J. Adams called attention to the fact that the walls of the privies, and the ground in the rear, were covered with frozen urine, and urged the general use of the bucket system, by means of which, if careful attention be paid to emptying the buckets, he thought the privies could be kept clean.

At Fort Niobrara, Nebr., in August, Assistant Surgeon T. E. Wilcox reports: "The older sinks are now nearly filled with excreta. During the month they have been quite freely supplied with disinfectants and dry earth, and are now in as good condition as it is possible for sinks to be; but I desire to urge the early abandonment of these factors in the pollution of the post. * * * Estimates for sewerage having been disapproved, I have to recommend the adoption of removal by the dry earth system. If closets

for two barracks be placed back to back, with a common removable receptacle, the labor of caring for them would be light, and, with suitable means for transportation and emptying, need not be difficult or disagreeable. * * * The sinks for officers may remain for the present as they are, the use of dry earth and disinfectants being continued, but the cess-pools should be abolished as soon as practicable."

In December he adds: "The excreta of the post are still received in pits, and I have to again urge the necessity for the adoption of means of removal, either by thorough sewerage, earth-closets, brick lined and cemented vaults with accompanying odorless extractors, or shallow pits from which contents can be removed by ordinary means. The last mentioned method need not, with the aid of dry earth (not sand), and disinfectants, be so very disagreeable as to be impracticable."

At Fort Robinson, Nebr., in his sanitary report for June, Assistant Surgeon W. Reed advises the introduction of the dry earth system in disposing of excreta and refuse matter, not only in the new part of the post, but throughout the garrison, and remarks: "It appears to me that a plan, which possesses so many advantages in a sanitary point of view as the dry earth system is conceded to possess, should receive careful consideration."

At Fort Laramie, Wyo., Assistant Surgeon L. Brechemin strongly urged the adoption of the earth closet system. The post commander disapproved of it on account of the great labor and inconvenience which the proper management of the closets involves, and remarked that any change of system would not remove the poisons already deposited during the forty years the post had been occupied.

At Fort D. A. Russell, Wyo., in February, Surgeon D. G. Caldwell, commenting on the number of privy vaults at that post, expressed the opinion that, unless some system of sewerage and drainage was constructed soon, fevers of miasmatic origin might be expected to make their appearance.

At Fort Lyon, Colo., in April, Surgeon J. R. Gibson reported the privy vaults to be offensive and said: "The substitution of removable wooden boxes for vaults would be a decided sanitary improvement. The boxes should be of convenient dimensions for handling, * * * lined with zinc, and occasionally coated on the inside with coal-tar. They should be emptied, at least three times a week, into pits at a suitable distance from the post. There should be two boxes for each company and set of quarters. The ground in the immediate vicinity of the barracks and quarters is already largely honey-combed with privy vaults, and it would be prudent to dig no more, as there is a possibility of contamination of the well, which furnishes the water supply, by percolation of the contents of some of these vaults through the soil."

The Medical Director of the department, Surgeon C. Page, concurred in the recommendation concerning the substitution of boxes for the privy vaults, but added: "I do not agree with the surgeon as to the advisability of emptying the boxes into pits. It would be preferable to spread the contents on the surface, at a safe distance from the post, to receive the disinfectant action of air and sunlight. It is evidence of a strange infatuation to store up excrement under our noses, and in the vicinity of wells from which we draw our drinking water."

At Fort Supply, Ind. T., where the dry earth system, with movable boxes, was in use, Assistant Surgeon J. L. Powell reported that many of the boxes leaked badly, and suggested that they should be lined with zinc. or saturated with tar and oil. He also noted that holes had been bored in some of the boxes to allow the escape of liquid matter, evidently for the purpose of saving labor in policing.

In the sanitary report of Fort Reno, Ind. T., for April, Assistant Surgeon J. Van R. Hoff suggests a systematic disinfection of the privies, and says: "Every week the excrement in all pit privies should be freely covered with a mixture of one part of chloride of lime and nine parts of clean dry sand. The annual allowance permits of 18 pounds of the chloride per week being so used. This, added to the sand, would give 180 pounds of disinfecting material. This amount sprinkled freely, at the rate of half a pound for each person using a privy, would be sufficient under ordinary circumstances. The box privies and cess-pools should be disinfected weekly with a solution of 10 pounds of sulphate of iron in 20 gallons of water. Kitchen sinks may be disinfected with chlorinated solution of soda, 1 bottle of solution to 5 gallons of water, this amount to be divided among the company kitchen sinks and bath tubs."

At Fort Elliott, Tex., in January, Assistant Surgeon R. C. Newton recommended the adoption of earth-closets with movable boxes. The post quartermaster, to whom the recommendation was referred, stated that the vaults then in use were substituted for the sliding boxes, because the latter did not give satisfaction, and remarked that earth could be used as well in the privy vaults as in drawers. In forwarding this report the Medical Director of the department said: "The system of privy vaults is condemned by sanitary science, but, being less troublesome than movable privy boxes, is preferred in the Army, where officers are opposed to the fatigue labor which the proper care of these boxes imposes upon troops. The true sanitary method of disposing of excrementitious matter is to get it away to a safe distance from habitations before decomposition is advanced."

At Fort Clark, Tex., Surgeon B. F. Pope recommended the substitution of boxes of galvanized iron for the leaky wooden ones then in use in connection with the dry earth system. In February he also recommended that steps be taken to relieve the troops from the disagreeable duty of disposing of the night-soil accumulations, and said: "It is believed that the work can be more satisfactorily performed under citizen contract; certainly the responsibility for any neglect would be more readily placed, and more effectually corrected, than now. This plan has been successfully tried at other posts, and the satisfaction given has fully compensated for the pecuniary outlay involved."

In April he suggested that the larger privies should be provided with lights, as there is always more or less fouling of the ground outside by men who dislike to enter the privies at night. In September he again recommended the employment of civilian labor to care for the privies and sinks at all times, relieving the troops of a duty which he thinks is performed, at best, carelessly and under a constant protest.

At Fort McIntosh, Tex., in December, Surgeon J. H. Bartholf noted that the zinc lining of the wooden earth-closet boxes was corroded, and that

they were no longer fit for use. He urged that galvanized iron boxes be provided as soon as practicable.

Cordilleras.—At Fort Lewis, Colo., in September, Assistant Surgeon C. B. Ewing suggested the substitution of sliding boxes for the pits and cess-pools, and remarked: "This proposed system of drawers can certainly be used for at least eight months out of the twelve, and if the snow fall be not too heavy, for the entire year. I would suggest that, in case the weather of winter should prevent the cleaning and emptying of the drawers, pits be dug for use during that season only, and that they be disinfected and filled up on the approach of spring, when the drawers could again be utilized."

DRAINAGE.

Atlantic Coast.—At Fort Adams, R. I., in July, Surgeon D. Bache reported that the stone drain was almost completely choked up with earth, sand, etc.; that it was in effect a prolonged reservoir for solid sewage, the liquid escaping into the surrounding soil; and that, as this condition had occurred before, glazed earthenware pipes, properly connected, trapped and ventilated, with means for flushing, should be substituted for the present defective drains.

At Fort Hamilton, N. Y., in September, Surgeon A. Hartsuff reported that there was but indifferent surface drainage, and no subsoil drainage at all, on this reserve, and attributed the large increase of sickness over previous months, and the prevailing miasmatic and rheumatic diseases, to long continued rains, damp quarters, the low marshes, and undrained ponds and holes on the reservation.

At Fort Monroe, Va., Surgeon J. Brooke reported that the sewer from the hospital was frequently obstructed, that some of the plumbing within the building was radically defective, and that in November, during heavy rains and high tides, sewer contents were ejected on the parade.

Eastern Timbered Plains and Hills.—At Fort McHenry, Md., in January, Surgeon W. H. Gardner remarked that the drainage of the parade ground was particularly bad, and recommended that it should be remedied by the laying of either surface or subterranean drains.

Northern Lakes.—At Fort Mackinac, Mich., Assistant Surgeon C. E. Woodruff, in his sanitary report for August, says: "The system of cess-pools and pits for house drainage at this post is primitive and objectionable, and a system of sewers should be laid to carry all this drainage to a distance from the post. I would recommend that before cold weather begins, all the cess-pools be cleaned out. The pits which receive house drainage are emptied frequently, but as the water is merely poured on the ground, the impurities are not removed, but sink into the soil to be drained gradually away by subsoil drainage."

At Plattsburg Barracks, N. Y., Assistant Surgeon W. O. Owen, reported many defects in the plumbing, and gave it as his earnest conviction that unless these defects were remedied the health of the post would suffer.

At Madison Barracks, N. Y., in the sanitary report for August, Assistant Surgeon E. T. Comegys says: "Now that the sewer is used for the

transmission of fecal matter, it should be ventilated at intervals of not less than 200 feet. At present it is only ventilated in two places, but it is arranged so as to be ventilated every 50 feet if necessary. It should also be flushed frequently. Some of the old tile drain pipes in rear of the officers' quarters are left, and as the experience of the past spring has shown that they are not only imperfectly but dangerously laid, it is most urgently recommended that they be either relaid, or better still, be replaced with cast-iron drain pipes at once. The health of the occupants of this set of officers' quarters during the past year has not been at all good, and most, if not all, of the sickness has been due to defective drainage. This has already to a certain extent been remedied, but it still needs improvement."

Prairies—At Fort Buford, Dak., it was reported that the drainage was imperfect; at Fort Sill, Ind. T., that traps were needed for bath tubs and sinks; and at San Antonio, Tex., that the sewage of the post flowed in a series of pools from the outlet of the sewer, down a natural depression in the ground, and that from these pools the offensive odor of decomposing organic matter during most seasons of the year is blown directly toward the barracks.

Great Plains.—At Fort Niobrara, Nebr., the drainage was reported as natural and very defective.

At Fort Robinson, Nebr., in July, attention was called to the advisability of abandoning the use of cess-pools.

In the sanitary report of Fort Reno, Ind. T., for July, Assistant Surgeon J. Van R. Hoff reports the necessity of introducing a system of artificial drains at the post, and says that the topography of this station is such that almost everything falling on the surface lies there until slowly taken up by the non-porous clayey soil, or evaporated by sun and wind, and that the sanitary condition of the post can never be above the average until satisfactory drainage is established.

Cordilleras.—At Fort Spokane, Wash., in his April report, Assistant Surgeon H. S. Turrill calls attention to the growing necessity of a better system of drainage, and says that when the post was built the usual makeshifts of open ditches, cess-pools, and wooden drains were resorted to, and that the bad effects of this arrangement are now showing themselves very plainly in the post, which is becoming honey-combed with old privy vaults, filled up cess-pools, and low places completely saturated with decaying organic matter. In December he states that the want of a thorough system of drainage becomes more apparent each month, there being an increase over the corresponding months of last year in disease of a malarial origin, and an increase in the severity of the cases.

At Fort Missoula, Mont., in May, Assistant Surgeon E. Woodruff described the sewer system at this post as follows: "It consists of a 9-inch earthen pipe laid beneath the frost line, at a depth of from 5 to 8 feet below the surface of the ground. The gradient is 9 inches to the hundred feet. There are no traps, and this constitutes the fatal defect of the system. At each set of quarters there is one vertical stand-pipe in the sink, over which is placed a seat containing two or three openings for use. At a distance of several feet is another stand-pipe in the open air, covered with a grating for the reception of fluid slops from the kitchens. * * * This system of sewerage has required so much trouble and labor to keep it in

working order that, several months since, the use of the sewer was abandoned in all the barracks, and earth-closets substituted."

HABITS OF THE MEN.

Atlantic Coast.—At Fort Adams, R. I., in July, Surgeon D. Bache states that, although but 2 cases of alcoholism appear upon the sick-list for the previous month, there is still evidence of the excesses that follow the payment of troops, though it may not be shown by a formal diagnosis, and remarks that a comparison of the sick of the command, with the sick of the 155 civilians attached to the command, will show the distinction between casual sickness and this phase of preventable disease.

In November he says that one-half of the total admissions to sick report were for the immediate effects of alcohol, or for injuries received while under its influence, but that he is unable to assign any cause for this unusual and marked increase in intoxication.

Eastern Timbered Plains and Hills.—At West Point, N. Y., in January, Surgeon J. P. Kimball reports that the habits of the enlisted men at that station as a rule are very good; that during the year ending December 31, 1886, there were taken on sick report for disease or injury not originating in the line of duty but 10 cases—3 suffering from venereal diseases, and 7 from disease or injury resulting from the use of alcoholic stimulants—the mean strength of the command during this period being 288 men. This unusually good showing he attributes to the fact that many of the men belonging to the command are married.

Prairies.—At Fort Buford, Dak., in May, Assistant Surgeon S. S. Turner states that the men as a body will compare well as to habits with other commands similarly situated; that drunkenness and other vicious habits are confined to a few; that much of the evil growing out of drink is probably due to the vile quality of the liquor smuggled upon the reservation with the sole idea of profit; and that persistent but unsuccessful efforts to break up this smuggling have been made by the commanding officer of the post since the order prohibiting the sale of liquor was issued.

Great Plains.—At Fort Assinniboine, Mont., in February, Acting Assistant Surgeon F. J. Adams reported that during the month there was not a single case of venereal disease admitted to sick report, which fact he attributed to the intense cold preventing the Indians from visiting the post.

At Fort Custer, Mont., in May, Assistant Surgeon C. E. Price says that the habits of the men are good, except for their intercourse with diseased squaws, which he sees no way of preventing.

At Fort Clark, Texas, in May, Surgeon B. F. Pope states that, following the visit of the paymaster, a proportionately large number of cases of acute alcoholism, or diseases and injuries resulting therefrom, came under treatment; that while the monthly rate of admissions for these causes is only about 4 per 1,000 of mean strength for the whole Army, at Fort Clark during the month of March this rate was over 18 per 1,000, in a mean strength of 606 officers and men, and during the month of May 20 per 1,000, in a mean strength of 643.

At Fort Ringgold, Tex., in his sanitary report for July, Assistant Surgeon W. F. Carter, commenting on the increased number of cases of gonorrhœa and alcoholism during the months of April, May, and June, says: "The general demoralization of the troops at this time was strikingly noticeable. The hospital and guard house reports show a larger percentage of men carried for diseases and breaches of discipline, incident or traceable to drink, than for a long time previously; especially may this increase be noticed for the month of May. I think an explanation lies in the fact that the post trader's establishment was closed (I think during the months of April and May), and subsequently his sales of liquors were very much restricted. The troops receiving their pay early in May, and not being able to procure whisky on the reservation, sought it in the saloons of the adjacent town.

"Intemperance is an evil greatly to be deprecated; it stands as a potent cause of much of the demoralization and disease among the troops; a train of maladies follows directly or indirectly from it, over the causation of which we have little or no control. But since we must have men who will drink, and I regret to say quite a large number of them, is it not far better that the opportunity should be given this class of men to procure a fairly good quality of whisky upon the reservation, where they come under the notice of their more sober comrades, who will care for them when they become too drunk to care for themselves? On the other hand, when they go to town for their liquor they get an inferior quality, mescal, etc., become drunk, and in this condition frequent the lowest dens in the town. I strongly advocate the sale of all kinds of liquors upon the reservation, where their quality and sale may be regulated by the post commander and council of administration."

In forwarding this report, the department commander, General D. S. Stanley, says: "The wisdom of allowing the post trader to sell liquors, thus giving the military authorities control of the traffic, is just as certainly true wisdom as is the system of high license in the States."

Cordilleras.—At Fort Huachuca, Ariz., in his sanitary report for November, Assistant Surgeon J. H. Patzki writes: "Soon after the order prohibiting the sale of liquor by post traders was issued, rum shops of the lowest grade sprang up like toad-stools in convenient proximity to the reservation; not only is the most villainous liquor sold there, but cards and prostitutes are used as additional allurements. . The result is only too perceptible; the men are fleeced by professional gamblers, crazed by liquor, become involved in drunken brawls, or fall into the meshes of the women; and each pay-day produces its crop of battered faces, empty pockets, and tainted constitutions, not to speak of breaches of discipline, and desertions the result of hopeless indebtedness. Besides this supply of liquor, there is another source, more convenient to the soldier—it is smuggled directly into the post, and into the quarters. On the whole, much more liquor is consumed now than when its sale by the post trader was authorized, the very prohibition offering an additional temptation to procure it.

"As a remedy against intemperance, I consider the order in question not only a failure, but actively mischievous. With men employed, as our soldiers are, on wearing and straining duties, mere prohibition will not avail any more than it will with other classes of society. If legitimate and

wholesome sources of supply are denied them, they will search for more distant and dangerous ones. The sale of strong liquor by the post trader, under proper supervision and restriction, should be authorized, as a sound sanitary measure, to obviate greater mischief."

SPECIAL REMARKS.

At Jefferson Barracks, Mo., in October, Surgeon E. McClellan remarks: "I would respectfully suggest that during the winter months recruits be sent to regiments serving in southern departments, and that during the summer months they be sent to regiments in the northern departments. This plan would, in my opinion, be conducive of much good by not subjecting recruits, who are at the best but badly prepared in the majority of instances to withstand abrupt climatic changes, to so great a physical test at the commencement of their military life."

At Fort Sill, Ind. T., in April, Surgeon M. K. Taylor writes: "I arrived here on November 17, 1883. For the three months immediately preceding, to wit, August, September, and October, the sick report showed that the ratio of cases of malarial fevers, diarrhœas, and dysenteries was 505 per 1,000 of mean strength, while for the same period of last autumn the rate was only 237, with a still greater difference in the relative intensity of the attacks. This change for the better is readily perceived in the cheerful and vigorous appearance of the command when on parade. The guard reports are of the same tendency. In 1884, on the first days of the months of January, February, March, and April, the number of cases in arrest or confinement was 15 per cent. of the mean strength of the command for that period, while for the past 4 months it has been but 10 per cent. Three years ago the men had only rough pillows and bed sacks, filled with the coarsest kind of hay, for bedding; now they have good wire spring mattresses and hair pillows, sheets and pillow-slips, all of which they highly appreciate. Then the squad room walls and bedding were infested with vermin to a most annoying degree; now there are no complaints, and no occasion for any. Then the only bathing facilities during cold weather consisted of a wash-tub taken into the mess room; now there are very good bath and lavatory accommodations, properly heated in the winter, so that the men can bathe at any time, which they do frequently. Then the water supply was scanty and of the most unhealthful character; now it is abundant and of the best quality.

"These betterments of the condition of the enlisted men here have been productive of the most beneficial results, alike in respect to the discipline of the post, the alacrity in the discharge of duty, and a pervading cheerfulness and satisfaction.

"The experience of this post goes to show that it pays the government to make the enlisted men comfortable in their quarters and surroundings, which, to them for the time being, constitute their homes. In this respect the soldier is like a domestic animal—the better cared for, the more efficient and willing he becomes."

At Fort Huachuca, Ariz., in November, Assistant Surgeon J. H. Patzki remarks: "Syphilis is much more prevalent than the sick report would

indicate, as many sufferers conceal their affliction, or use quack remedies, while others are treated by the medical officers privately, since surgeons of experience will encourage such patients to avail themselves of regular treatment without exposing them to the dreaded publicity of going on sick report."

WORK OF THE RECORD AND PENSION DIVISION FOR THE FISCAL YEAR ENDING JUNE 30, 1888.

The number of official calls upon the record and pension division during the year, for information as to the causes of death in cases of deceased soldiers, and for the hospital record of invalids, was 47,834. Including the 294 cases remaining unanswered at the end of the last fiscal year, the total number of cases to be disposed of was 48,128.

Of the new cases, 37,133 were received from the Commissioner of Pensions, 7,310 from the Adjutant General of the Army, and 3,391 from miscellaneous sources.

Replies have been furnished to the proper authorities in 47,698 cases, of which 37,002 were furnished to the Commissioner of Pensions, 7,311 to the Adjutant General of the Army, and 3,385 to miscellaneous applicants, leaving to be reported on at the end of the fiscal year, 430 cases, all of which were in the hands of the clerks, and none of which had been three days in the office.

In addition to the number of reports above stated as furnished to the Commissioner of Pensions, 1,492 have been prepared and furnished to the same officer by the administrative and miscellaneous branch of the office: making a total of 38,494 furnished to the Pension Office during the year.

The work, which was commenced in April of last year, of transcribing upon individual index-record cards the hospital registers embracing the period of the war of the rebellion, has been pushed as rapidly as possible, and during the year 1,839,349 such cards were made. These added to the number made before June 30, 1887, (168,687), amounted to a total of 2,008,036 cards made since the work was begun.

The medical history of each soldier as it appears on the hospital register is written on a separate card, 8 inches long by 3¼ inches in width, containing a suitable printed form agreeing with the headings of the columns in the registers. The cards are assorted by regiments, then arranged alphabetically by name within the regiment, so that when all the registers shall have been copied, the cards showing the medical history of a soldier, who may have been treated in any number of hospitals and in any part of the country, will by this arrangement all fall together automatically; and his whole medical history can be found by simply turning to the proper letter of the alphabet in the file box containing the cards of his regiment.

The advantages of this system of index-record cards may be summed up as follows: They answer all the purposes of a copy or duplication of the valuable records which have been fast going to destruction from constant handling;

their alphabetical arrangement, in order of surnames under each regiment, will obviate tedious, and in some cases unsuccessful, search of the original records; a soldier's medical history can be readily furnished in cases where it is impossible to obtain any data upon which to search, other than his name and military organization; and finally, should it be desired to print the hospital records, the index-record cards, which contain everything recorded in the registers, are in the best possible form to send to the printer.

To facilitate and insure the proper distribution of the cards, the initial of the soldier's surname is placed conspicuously at the upper left-hand corner; the abbreviation of the state to which his regiment belonged, at the upper right-hand corner, and the number of the regiment in the center.

In order to insure the authenticity of these cards, the file number and page of the register are entered on them, so that a card can be readily compared with the original record at any time; and in addition, after the card has been found to be a correct copy, there is impressed upon it, with an automatic numbering machine, the consecutive number of the card and the date when stamped.

In most of the hospitals, and especially the large general hospitals, the register of patients practically contains in one entry a complete history of the soldier during his stay in hospital; in these cases but one card needs to be made for the soldier's treatment. But in many of the smaller hospitals, especially camp, field, and garrison hospitals, in the absence of a hospital register of proper form, a soldier's record consists of entries made each day or week during his stay in hospital; in such cases, before the final distribution of the cards, those relating to the same soldier, which vary from 5 to 100 or more, are consolidated on one card, so as to exhibit in compact form the record of the soldier's treatment in that hospital.

By the end of the fiscal year 1,779,735 cards had been stamped; the difference between this number and the total number made (2,008,036) is accounted for by consolidation of cards before stamping, and by those in the hands of copyists and comparers at the end of the year.

The regimental index-card files are examined in each call received in the office, before it is handed to the clerks for a search of the registers not yet carded. In March, 1888, when the files were first used for this purpose, cards were found in 26 per cent. of the cases; in April, 38 per cent., in May, 47 per cent., and in June, 49 per cent.

The average number of cards found in each 100 cases was 51 in March, 75 in April, 100 in May, and 112 in June. It is evident therefore that the cards already in the files furnish record evidence from 112 hospital registers in every 100 cases received. While this is not an actual saving of the search of so many registers in that number of cases, as the cards develop evidence of treatment in hospitals not mentioned by the claimant, and consequently the original records of these hospitals might not have been searched under the old system, still it demonstrates very clearly one of the most important advantages of this method of copying and arranging the records; the office is enabled in a large percentage of cases to furnish record evidence which never would have been found without the assistance of the cards.

The medical records of the field hospitals of brigades, divisions, corps, armies and departments are all carded; and the hospital registers of gen-

eral, post and other hospitals in the western and southern States were nearly all carded by the end of the fiscal year; leaving the New England States, New York, New Jersey, Pennsylvania, Delaware, District of Columbia, Oregon, California, Nevada, Colorado, Nebraska, and the territories, to be completed during the present fiscal year.

After these most important books are disposed of, attention can then be turned to the auxiliary registers, and to the prescription and case books of hospitals for which no hospital registers are on file.

During the early part of the fiscal year 3,541 folios of worn hospital registers, containing 78,933 entries, were copied into new books. The satisfactory progress however made by the clerks engaged in copying on index-record cards made it safe to discontinue finally the work of reproducing even the most dilapidated registers, further risk of loss of original records from wear and tear having been reduced to a minimum.

There were received during the year from medical officers in charge of military stations and commands, 1,961 consolidated monthly reports of sick and wounded, 1,442 monthly reports of examination of recruits, 64 special reports of interesting cases, 64 surgical reports, and 1,559 monthly sanitary reports. There were also received and filed 71 bound volumes of hospital records; 3 volumes were transmitted to the office of the Adjutant General, leaving a total of 18,990 volumes on file at the end of the year.

ARMY MEDICAL MUSEUM.

The total number of specimens received during the fiscal year was 833; total number of specimens in the museum June 30, 1888, 26,695. The following statement shows the details of additions and transfers in the different sections:

	Specimens.
Pathological Section:	
In museum June 30, 1887	9,838
Transferred to Provisional Pathological Section during the year	139
	9,699
Received during the year	119
In museum June 30, 1888	9,818
Anatomical Section:	
In museum June 30, 1887	2,952
Transferred and discarded during the year	210
	2,742
Received during the year	111
In museum June 30, 1888	2,853
Section of Comparative Anatomy:	
In museum June 30, 1887	1,674
Received during the year	15
In museum June 30, 1888	1,689
Microscopical Section:	
In museum June 30, 1887	10,046
Received during the year	370
In museum June 30, 1888	10,416

Miscellaneous Section:	
In museum June 30, 1887	784
Received during the year	34
In museum June 30, 1888	818
Provisional Pathological Section:	
In museum June 30, 1887	443
Transferred from Pathological Section during the year	139
Received during the year	144
In museum June 30, 1888	726
Provisional Anatomical Section:	
In museum June 30, 1887	335
Received during the year	40
In museum June 30, 1888	375

Among the interesting accessions to the museum during the year may be mentioned, a series of models of diseases of the skin, a life-sized elastic model of a horse, several microscopes made in the latter part of the seventeenth century, and a series of skulls and skeletons from Peru and Australia.

The arrangement of the museum collection in the new hall was not completed, so that it could be opened to the public, until February 21, 1888. It is now arranged under the new classification, and the stream of visitors is almost constant.

The annex building for anatomical and pathological laboratories has been completed in a very satisfactory manner under the supervision of Col. J. M. Wilson, U. S. Engineer Corps. It is not yet occupied, owing to the delay in appropriating the funds necessary to furnish it properly for the purposes for which it is designed. I desire again to respectfully renew recommendations, previously made in annual reports, that authority be granted by Congress for the publication of a catalogue of the museum.

LIBRARY.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30, 1887.	Added during fiscal year.	Total, June 30, 1888.
Medical journals	25,377	1,514	26,891
Medical transactions	3,649	117	3,766
Bound theses	1,385		1,385
Bound pamphlets	1,562	206	1,768
Other medical books	53,192	2,410	55,602
Total	85,165	4,247	89,412
Medical theses	45,279	2,570	47,849
Medical pamphlets	74,374	8,391	82,765
Total	119,653	10,961	130,614

There were presented to the library during the year 269 books and 5,212 pamphlets.

Volume IX of the Index-Catalogue, including from "Medicine (Popular)" to "Nywelt," forming a volume of 1,054 pages, has been printed, and the edition distributed to those institutions and persons who have received the previous volumes. The preparation of the manuscript of Volume X is well advanced, and the first part of it is now going to press.

MEDICAL AND SURGICAL HISTORY OF THE WAR.

The third part of the Medical Volume of the Medical and Surgical History of the War is now being issued. Its publication completes a valuable work which preserves for the medical profession and the country much of the knowledge of military surgery, medicine and sanitation, that was gained by our medical officers during the war.

HOSPITAL CORPS.

The organization of this corps is now nearly completed; 614 privates have been transferred to it from the line, 24 of whom were found qualified, after examination, for the position of acting hospital steward, and so detailed; 125 vacancies still remain; 9 for civilians, 10 for privates, 81 for acting hospital stewards and 25 for hospital stewards. It is hoped that these vacancies may be filled in the near future, although some embarrassment is experienced owing to the discrimination which is made against the private soldier of the Hospital Corps in the matter of his pay: he now receives but $13 per month, whereas, under the old regulations, he received $23.50 per month when detailed from his company for duty as a hospital attendant. To remedy this, bills were introduced into both Houses of Congress early in the present session, providing for an increase of $6 per month in his pay, but as yet they have not been acted upon. I earnestly commend this to your attention, and trust that favorable action may be urged.

The standard of professional qualifications in all of the grades has been raised, systematic instruction in first aid, stretcher drill, etc., being given to members of the corps and company bearers, and promotions made only after successful competitive examination. The hospital stewards now in service are fully competent to perform the important duties of their positions.

The most favorable results in the administration of the hospital service at military posts have followed the organization of this corps, and are concisely expressed in the following extract from the annual report of the Medical Director of the department of Dakota for the year 1888: "The Hospital Corps has given satisfaction to all concerned; to the sick, by securing them efficient attendance; to the medical officers, by securing them faithful and competent subordinates; to the line officers, by relieving their companies of burdensome details."

Attention is invited to the following tabular statement of the condition of the corps during the fiscal year ending June 30, 1888.

ANNUAL REPORT OF THE HOSPITAL CORPS U. S. ARMY FOR THE YEAR ENDING JUNE 30, 1888.

	Gain.									
	In service July 1, 1887.	Appointed prior to organization of corps.	Appointed after examination.	Promoted after examination.	Surrendered after desertion.	Detailed from private.	Transferred from the line.	Enlisted.	Re-enlisted from other corps.	Total gain.
*Hospital stewards	131	2	10	11	1					155
†Acting hospital stewards						36				36
‡Privates							665	4	12	681
§Matrons	167		113							280

	Loss.										
	Discharged.										In service June 30, 1888.
	Expiration of service.	For disability.	By sentence of general court-martial.	By order.	Promoted.	Reduced to private.	Transfer revoked.	Retired.	Died.	Deserted.	Total loss.
*Hospital stewards	4		2	4				4	2		16	139
†Acting hospital stewards					11	1					12	24
‡Privates	26	4	3	5	36		7		2	8	91	590
§Matrons				123							123	157

*Eighteen whose term of service expired during the year were re-enlisted after examination.
†Three whose term of service expired during the year were re-enlisted.
‡Nineteen whose term of service expired during the year were re-enlisted.
§One hundred and sixty allowed by law.

RECORD OF EXAMINATIONS.

	No. of applicants.	Disapproved.	Withdrawn.	Not entitled to examination.	Examination authorized.	Declined.	Failed.	Failed but recommended for acting hospital steward.	Found qualified.
Hospital stewards	56	1	9		46	12	10	4	20
Acting hospital stewards	79	2	9	16	52	10	10		*32

*Add 4 who failed as hospital stewards but qualified as acting hospital stewards.

CIVILIANS.

Applications received	21
Failed to accept conditions	17
Enlistments authorized	4
Failed to appear	3
Enlisted	1

PROVIDENCE HOSPITAL.

Under the provisions of the act of March 3, 1887, making appropriation of $17,000 "for the support and medical treatment of 85 medical and surgical patients, who are destitute, in the city of Washington, under a contract

to be made with the Providence Hospital by the Surgeon General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction, and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation:

Number of patients in hospital July 1, 1887	87
Number of patients admitted during the year	842
Total number of patients treated	929
Average number of patients admitted per month	70
Number remaining in hospital June 30, 1888	95
Total number of days' treatment afforded	32,866
Average number of days' treatment per patient	35
Average number of patients treated per day	90
Longest term of treatment.....days...	366
Shortest term of treatment.....day...	1
Number of patients in hospital during the whole year	21

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients shown as having remained in hospital during the whole year are paupers, incurable, without home or friends.

ARMY AND NAVY HOSPITAL, HOT SPRINGS, ARKANSAS.

The results anticipated from the treatment of disease by the use of the waters at this place have been fully realized, 50 per cent. of the patients admitted having been returned to duty cured.

The exclusion of diseases of specific origin will, it is believed, remove much of the odium attached to treatment in a special hospital, and as the benefits to be derived from the use of its waters become more widely known to the Army and Navy, the admission rate will undoubtedly be largely increased.

The advantage of this institution to the service may be better appreciated from the fact that of the enlisted men thus restored to duty all would, without this course of treatment, have been discharged on surgeon's certificate of disability, and their services lost to the Army. In future, before final action is taken on a numerous class of cases now recommended for discharge, efforts will be made for their relief by treatment at this hospital, and it is hoped that a sensible diminution in the large percentage of loss from this cause will follow. It is moreover suggested that in many instances, where commissioned officers seek relief through absence on account of sickness, benefit would result from admission to and treatment in this hospital.

Number of applications for admission, from commissioned officers and enlisted men on the active and retired list	85
Number of cadets from U. S. Military Academy	1
Total	86
Number rejected	11
Number approved and admission recommended	75

Number of patients in Hospital July 1, 1887		27
Number of patients admitted to June 30, 1888		84
Total admitted		111
Discharged cured	55	
Discharged by expiration of service	5	
Discharged on surgeon's certificate of disability	16	
Transferred to Insane Asylum	1	
Died	1	
		78
		33
Remaining in Hospital June 30, 1888, viz:		
Officers of the Army (active and retired list)	3	
Officers of the Navy (active and retired list)	3	
Enlisted men of the Army (active and retired list)	27	
Enlisted men of the Navy (active and retired list)	0	
		33

MEDICAL OFFICERS.

The requirements of the Army as regards medical officers during the past fiscal year have been as follows:

Number of permanent posts	139
Number of temporary posts and sub-stations	26
Total	165

There were 102 medical officers reported to this office as having been on duty with scouting parties, and on other field service, during the year.

Since the date of last report Colonel Glover Perin, Assistant Surgeon General, has been retired, and 1 surgeon with the rank of major, 2 assistant surgeons with the rank of captain, and 2 assistant surgeons on the retired list, have died.

Lieutenant Colonel Charles Page, surgeon, was appointed Assistant Surgeon General with the rank of colonel, November 17, 1887; 1 surgeon with the rank of major has been promoted to surgeon with the rank of lieutenant-colonel, and 2 assistant surgeons with the rank of captain have been promoted to surgeons with the rank of major; 4 appointments in the grade of assistant surgeon have been made, leaving 1 approved candidate to be appointed as a vacancy may occur.

There are no vacancies in the Medical Corps of the Army.

The medical officers who have died during the year are as follows:

Major William C. Spencer, surgeon, at Fort Trumbull, Conn., March 22, 1888.

Captain John M. Dickson, assistant surgeon, at Fort Mason, Cal., August 7, 1887.

Captain T. A. Cuningham, assistant surgeon, at Fort Lewis, Colo., October 12, 1887.

Captain Benjamin King, assistant surgeon (retired), at his residence near Obligation, Anne Arundel County, Md., June 24, 1888.

Captain Thomas F. Azpell, assistant surgeon (retired), at Fort Lee, Bergen County, N. J., March 12, 1888.

There are 15 medical officers and 1 medical store-keeper on sick leave of absence; of these, 8 have been found incapacitated for active service, and

recommended for retirement by Army retiring boards, viz: Assistant Surgeon James W. Buell, who has been on sick leave since August 23, 1877; William R. Steinmetz, who has been on sick leave since September 16, 1878; J. V. De Hanne, who has been on sick leave since June 22, 1879; Joseph Y. Porter, who was ordered to his home, Special Orders No. 136, Headquarters of the Army, Adjutant General's Office, June 15, 1885; F. W. Elbrey, who has been on sick leave since July 26, 1882; Surgeon B. E. Fryer, who has been on sick leave since July 1, 1885, with the exception of 5 months; William S. Tremaine, who has been on sick leave since February 10, 1885; and Assistant Surgeon Victor Biart, who has been on sick leave since April 21, 1884. The remaining 7 are regarded as permanently disabled; 1 officer is sick in quarters—also regarded as permanently disabled—and 1 officer is in arrest, awaiting result of trial by general court-martial; leaving 175 medical officers and 2 medical store-keepers for duty.

This large number of disabled officers seriously embarrasses the efficiency of the department. Five important military posts in the immediate vicinity of eastern cities are without medical officers, and at some large military posts in the west, where there should be two or more, but one is stationed; the benefits arising from the intelligent supervision by trained military sanitarians of the hygiene of the post, and the health of the soldier, are thus lost to the service at many stations, and at others the duties imposed upon a single officer are such that assistance is required. To meet these deficiencies, the necessary professional service is procured by the employment of citizen practitioners by the visit, but where this is not practicable, physicians willing to abandon their practice are employed by contract.

As stated in my last report, this is an expensive and unsatisfactory procedure, which can be remedied in part by legislation, and in part by the retirement of those officers who have been found by Retiring Boards incapacitated for active service, and whose places could be filled by young and active men.

I therefore recommend their retirement as vacancies occur, and renew my recommendation of last year for an increase of 20 assistant surgeons, believing that with this addition to the present force the requirements of the service can be met.

JNO. MOORE,
Surgeon General, U. S. Army.

HON. WILLIAM C. ENDICOTT,
Secretary of War.

Table showing the number and classified causes of all admissions to sick report, deaths, and discharges occurring in the **Whole Army** *during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance as determined by the degree of impairment of force produced by each.*

Classified causes.	Time lost.		Number of—			Ratios per 1,000 of mean strength.			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
						*	*	†	†
Injuries	75,514	12.9	5,839	65	66	8.68	244.91	2.47	2.50
Venereal diseases	44,575	25.1	1,773	.....	104	5.12	74.37	.....	3.94
Diseases of the respiratory system	29,573	10.8	2,735	42	73	3.40	114.72	1.59	2.77
Diseases of the digestive system	28,086	7.8	3,597	11	45	3.23	150.87	.42	1.71
Constitutional diseases	26,010	25.6	1,018	6	73	2.99	42.70	.23	2.77
Malarial diseases	26,007	10.6	2,446	9	2	2.99	102.60	.34	.08
Diseases of the integumentary system	19,570	10.3	1,894	.....	5	2.25	79.44	.....	.19
Diseases of the nervous system	18,034	11.0	1,640	17	111	2.07	68.79	.64	4.21
Diarrhœal diseases	17,946	5.4	3,307	8	11	2.06	138.71	.30	.42
Diseases of the locomotor system	17,196	13.9	1,237	.....	58	1.98	51.88	.....	2.20
Specific febrile and acute infectious diseases	12,396	23.4	523	18	.....	1.42	21.94	.68	.....
Diseases of the genito-urinary system (non-venereal)	11,850	28.7	413	6	42	1.36	17.32	.23	1.59
Diseases of the eye	9,431	17.4	543	.....	30	1.08	22.78	.....	1.14
Zoögenous diseases	6,995	11.7	598	.....	.....	.80	25.08	.....	.....
Diseases of the circulatory system	6,609	36.9	179	17	45	.76	7.51	.64	1.71
Diseases of the lymphatic system	4,894	31.0	158	.....	2	.56	6.63	.....	.08
Dietic diseases	4,306	3.8	1,122	4	5	.50	47.06	.15	.19
Diseases of the ear	2,427	15.7	155	.....	12	.28	6.50	.....	.46
Septic diseases	1,323	25.0	53	5	1	.15	2.22	.19	.04
Typho-malarial fever	815	54.3	15	4	.....	.09	.63	.15	.....
Diseases of the nose	782	18.6	42	.....	4	.09	1.76	.....	.15
Parasitic diseases	592	7.6	78	.....	.....	.07	3.27	.....	.....
Developmental diseases	510	42.5	12	1	22	.06	.50	.04	.83
Unclassified diseases	3,313	9.5	350	1	3	.38	14.68	.04	.11
Total	**368,754**	**12.4**	**29,727**	**214**	**714**	**42.38**	**1,246.88**	**8.12**	**27.08**

* Based on a mean strength of 23,841, as shown by reports of the Medical Department.
† Based on a mean strength of 26,365, as shown by returns of the Adjutant General; see page 61.

Table showing the number and classified causes of all admissions to sick report, deaths, and discharges occurring among **White Troops** *during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance, as determined by the degree of impairment of force produced by each.*

Classified causes.	Time lost.		Number of			Ratios per 1,000 of mean strength.			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non effective.	Admissions to sick report.	D'ths.	Discharges.
						*	*	†	†
Injuries	67,147	13.0	5,162	58	59	8.52	238.97	2.42	2.47
Venereal diseases	38,919	25.0	1,558	.....	93	4.94	72.13	.....	3.89
Diseases of the digestive system	25,934	8.1	3,197	9	44	3.29	148.00	.38	1.84
Diseases of the respiratory system	25,871	10.8	2,389	34	64	3.28	110.60	1.42	2.67
Malarial diseases	23,093	10.5	2,191	8	2	2.93	101.43	.33	.08
Constitutional diseases	22,717	26.8	849	4	62	2.88	39.30	.17	2.59
Diseases of the integumentary system	18,088	10.2	1,768	.....	5	2.29	81.85	.....	.21
Diseases of the nervous system	16,327	11.4	1,435	16	98	2.07	66.43	.67	4.09
Diarrhœal diseases	16,219	5.4	3,017	7	10	2.06	139.67	.29	.42
Diseases of the locomotor system	15,795	14.2	1,109	.....	53	2.00	51.34	.....	2.21
Diseases of the genito-urinary system (non venereal	11,040	30.2	366	5	36	1.40	16.94	.21	1.50
Specific febrile and acute infectious diseases	11,038	24.7	447	16	.....	1.40	20.69	.67	.....
Diseases of the eye	8,408	17.5	481	.....	26	1.07	22.27	.....	1.09
Zoögenous diseases	6,483	12.0	539	.....	.....	.82	24.95	.....	.....
Diseases of the circulatory system	6,231	37.8	165	17	40	.79	7.64	.71	1.67
Dietic diseases	4,288	3.8	1,117	4	5	.54	51.71	.17	.21
Diseases of the lymphatic system	4,135	30.0	138	.....	2	.52	6.39	.....	.08
Diseases of the ear	2,376	15.9	149	.....	12	.30	6.90	.....	.50
Septic diseases	1,254	25.6	49	5	1	.16	2.27	.21	.04
Diseases of the nose	731	19.2	38	.....	3	.09	1.76	.....	.13
Typho-malarial fever	673	51.8	13	3	.....	.09	.60	.13	.....
Parasitic diseases	592	7.6	78	.....	.....	.08	3.61	.....	.....
Developmental diseases	493	44.8	11	1	20	.06	.51	.04	.84
Unclassified diseases	3,234	9.7	334	1	2	.41	15.47	.04	.08
Total	**331,086**	**12.4**	**26,600**	**188**	**637**	**41.99**	**1,231.42**	**7.85**	**26.61**

* Based on a mean strength of 21,601, as shown by reports of the Medical Department.
† Based on a mean strength of 23,937, as shown by returns of the Adjutant General: see page 61.

Table showing the number and classified causes of all admissions to sick report, deaths, and discharges occurring among **Colored Troops** *during the year; the aggregate loss of time for each of the classified causes; the average loss of time for each admission; and the ratios, per 1,000 of mean strength, of admissions, constant non-effectiveness, discharges, and deaths. The causes of admission to sick report are arranged in the table in the order of their relative importance, as determined by the degree of impairment of force produced by each.*

Classified causes.	Time lost.		Number of—			Ratios per 1,000 of mean strength.			
	Aggregate for all cases, (days).	Average for each case, (days).	Admissions to sick report.	D'ths.	Discharges.	Men constantly non-effective.	Admissions to sick report.	D'ths.	Discharges.
						*	*	†	†
Injuries	8,367	12.4	677	7	7	10.23	302.23	2.88	2.88
Venereal diseases	5,656	26.3	215	.....	11	6.92	95.98	.....	4.53
Diseases of the respiratory system	3,702	10.7	346	8	9	4.53	154.46	3.29	3.71
Constitutional diseases	3,293	19.5	169	2	11	4.03	75.45	.82	4.53
Malarial diseases	2,914	11.4	255	1	.....	3.56	113.84	.41	.....
Diseases of the digestive system	2,152	5.4	400	2	1	2.63	178.57	.82	.41
Diarrhœal diseases	1,727	6.0	290	1	1	2.11	129.46	.41	.41
Diseases of the nervous system	1,707	8.3	205	1	13	2.09	91.52	.41	5.35
Diseases of the integumentary system	1,482	11.8	126	.....	.....	1.81	56.25	.....	.....
Diseases of the locomotor system	1,401	10.9	128	.....	5	1.71	57.14	.....	2.06
Specific febrile and acute infectious diseases	1,358	17.9	76	2	.....	1.66	33.93	.82	.....
Diseases of the eye	1,023	16.5	62	.....	4	1.25	27.68	.....	1.65
Diseases of the genito-urinary system (non-venereal)	810	17.2	47	1	6	.99	20.98	.41	2.47
Diseases of the lymphatic system	759	37.9	20	.....	.....	.93	8.93	.....	.....
Zoögenous diseases	512	8.7	59	.....	.....	.63	26.34	.....	.....
Diseases of the circulatory system	378	27.0	14	.....	5	.46	6.25	.....	2.06
Typho-malarial fever	142	71.0	2	1	.....	.17	.89	.41	.....
Septic diseases	69	17.2	4	.....	.....	.08	1.79	.....	.....
Diseases of the ear	51	8.5	6	.....	.....	.06	2.68	.....	.....
Diseases of the nose	51	12.7	4	.....	1	.06	1.79	.....	.41
Dietic diseases	18	3.6	5	.....	.....	.02	2.23	.....	.....
Developmental diseases	17	17.0	1	.....	2	.02	.45	.....	.82
Unclassified diseases	79	4.9	16	.....	1	.10	7.14	.....	.41
Total	**37,668**	**12.0**	**3,127**	**26**	**77**	**46.07**	**1,395.98**	**10.71**	**31.71**

*Based on a mean strength of 2,240, as shown by reports of the Medical Department.
† Based on a mean strength of 2,428, as shown by returns of the Adjutant General; see page 61.

Table showing, for the different **Arms and Departments** *of the service, the mean strength of each; the ratios of admissions to sick report, constant non-effectiveness, deaths, and discharges; and the average sick time for each man in service, and for each case reported.*

Arms of service.	Mean strength.	Ratios per 1,000 of mean strength.				Average sick time.	
		Admissions.	Men constantly non-effective.	Deaths.	Discharges for disability.	For each man in service, (days).	For each case reported, (days).
Officers	**2,162***	**628.42†**	**45.28†**	**9.3‡**	.....	**12.6†**	**26.3**
Infantry	869	777.94	55.82	8.1	.....	15.5	26.2
Cavalry	430	792.05	57.26	4.7	.....	15.9	26.4
Artillery	278	716.98	40.50	18.0	.....	11.3	20.6
Engineers	110	132.42	12.39	9.1	.....	3.5	31.7
Ordnance	59	244.44	9.01	.....	.....	2.5	13.5
General officers and commissioned staff corps	416	271.30	27.98	12.0	.....	7.8	37.6
Enlisted men	**24,203**	**1,292.78**	**42.16**	**8.0**	**29.5**	**14.1**	**11.9**
Infantry	10,897	1,251.70	40.63	8.2	30.5	13.6	11.8
Cavalry	6,772	1,350.40	45.42	5.8	35.3	15.2	12.3
Artillery	2,575	1,316.82	37.03	7.4	26.8	12.4	10.3
Engineers	407	2,546.92	59.55	7.4	44.2	19.9	8.5
Ordnance	415	1,380.58	38.43	7.2	19.3	12.9	10.2
Recruits at depots	1,821	1,725.14	67.15	14.3	23.1	22.5	14.2
All others	1,316	275.89	9.41	10.6	4.6	3.1	12.4
Officers and enlisted men	**26,365**	**1,246.88**	**42.38**	**8.1**	**27.1**	**14.0**	**12.4**

* As shown by returns of Adjutant General. † Based on mean strength reported by medical officers. ‡ Based on mean strength shown by returns of the Adjutant General; see page 61.

Table showing, for men of different **Ages,** *the mean strength of each group; the ratios of admission to sick report, constant non-effectiveness, deaths, and discharges; and the average sick time for each man in service, and for each case reported.*

Groups of ages.	Mean strength.	Ratios per 1,000 of mean strength. Admissions.	Men constantly non-effective.	Deaths.	Discharges for disability.	Average sick time. For each man in service, (days).	For each case reported, (days).
Officers	*2,162	†628.42	†45.28	‡9.3		**12.6**	**26.3**
Under sixteen years							
Sixteen to twenty years							
Twenty-one to twenty-five years	125	715.79	45.91	8.0		12.7	23.4
Twenty-six to thirty years	305	673.81	35.77			10.0	19.4
Thirty-one to thirty-five years	335	686.27	35.71	6.0		9.9	19.0
Thirty-six to forty years	268	691.17	64.36	7.5		18.0	34.0
Forty-one to forty-five years	304	762.93	75.40	16.4		21.0	36.1
Forty-six to fifty years	370	663.11	50.10	18.9		14.0	27.6
Fifty-one to fifty-five years	242	380.44	25.88	8.3		7.2	24.8
Fifty-six to sixty years	146	423.42	23.07			6.4	19.9
Over sixty years	67	254.90	13.27	14.9		3.7	19.0
Enlisted men	**24,203**	**1,292.78**	**42.46**	**8.0**	**29.5**	**11.1**	**11.9**
Under sixteen years							
Sixteen to twenty years	199	1,994.50	52.39	85.4	266.3	17.5	9.6
Twenty-one to twenty-five years	7,523	1,673.42	54.24	7.6	35.2	18.2	11.8
Twenty-six to thirty years	7,426	1,179.41	37.53	3.8	23.4	12.6	11.6
Thirty-one to thirty-five years	3,829	1,076.05	34.61	8.9	21.4	11.6	11.7
Thirty-six to forty years	2,659	1,078.75	35.12	9.8	20.7	11.8	11.9
Forty-one to forty-five years	1,609	907.80	30.47	11.8	26.7	10.2	12.3
Forty-six to fifty years	664	1,082.24	43.23	13.6	34.6	14.5	14.6
Fifty-one to fifty-five years	226	1,164.29	59.51	8.8	70.8	19.9	18.7
Fifty-six to sixty years	52	1,916.67	74.94	19.2	38.5	25.2	14.3
Over sixty years	16	466.67	126.76	62.5	62.5	43.4	99.1
Officers and enlisted men	**26,365**	**1,246.88**	**42.38**	**8.1**	**27.1**	**14.0**	**12.4**

*As shown by returns of Adjutant General. †Based on mean strength reported by medical officers. ‡Based on mean strength shown by returns of the Adjutant General; see page 61.

Table showing, for men of different **Lengths of Service,** *the mean strength of each group; the ratios of admissions to sick report, constant non-effectiveness, deaths, and discharges; and the average sick time for each man in service, and for each case reported.*

Lengths of service.	Mean strength.	Ratios per 1,000 of mean strength. Admissions.	Men constantly non-effective.	Deaths.	Discharges for disability.	Average sick time. For each man in service, (days).	For each case reported. (days).
Officers	**2,162** *	**628.42** †	**45.28** ‡	**9.3**		**12.6**	**26.3**
Under one year	68	117.65	7.79			2.1	24.2
One year	86	153.84	14.20			3.9	33.7
Two years	49	297.30	56.57			15.6	69.5
Three years	74	508.77	27.78			7.8	19.9
Four years	65	780.00	30.46			8.6	14.3
Five years	55	714.29	43.64			12.2	22.3
Six years	62	659.57	42.67	16.1		11.8	23.6
Seven years	72	490.91	29.79			8.3	22.1
Eight years	82	677.42	44.01			12.1	23.7
Nine years	44	666.66	66.92			18.3	36.6
Ten and eleven years	143	587.16	36.67	7.0		10.2	22.9
Twelve to fourteen years	170	892.31	49.25			13.7	20.1
Fifteen years and over	1,192	668.86	51.97	15.1		14.5	28.4
Enlisted men	**24,203**	**1,292.78**	**42.16**	**8.0**	**29.5**	**14.1**	**11.9**
Under one year	3,933	1,914.60	64.45	9.7	32.8	21.6	12.3
One year	2,240	1,582.56	52.83	4.0	45.5	17.7	12.2
Two years	2,168	1,562.65	47.49	8.3	42.0	15.9	11.1
Three years	2,584	1,403.97	45.80	6.6	32.9	15.3	11.9
Four years	3,164	926.95	29.37	5.1	22.1	9.8	11.6
Five years	1,126	1,250.75	39.56	7.1	20.4	13.2	11.5
Six years	1,080	921.21	29.09	9.3	22.2	9.7	11.6
Seven years	912	956.96	29.05	2.2	19.7	9.7	11.1
Eight years	782	947.00	29.91	10.2	20.5	10.0	11.5
Nine years	784	809.72	22.04		17.9	7.4	9.9
Ten and eleven years	890	1,116.42	36.60	14.6	30.3	12.2	12.0
Twelve to fourteen years	1,261	942.04	28.58	4.0	7.1	9.6	11.1
Fifteen years and over	3,279	1,047.20	37.38	15.2	32.3	12.5	13.0
Officers and enlisted men	**26,365**	**1,246.88**	**42.38**	**8.1**	**27.1**	**14.0**	**12.4**

* As shown by returns of Adjutant General. † Based on mean strength reported by medical officers. ‡ Based on mean strength shown by returns of the Adjutant General; see page 61.

Table showing, for men of different **Nativities** *in the service, the mean strength of each; the ratios of admissions to sick report, constant non-effectiveness, deaths, and discharges; and the average sick time for each man in service, and for each case reported.*

Nativities.	Mean strength.	Ratios per 1,000 of mean strength.				Average sick time.	
		Admissions.	Men constantly non-effective.	Deaths.	Discharges for disability.	For each man in service, (days).	For each case reported (days).
	*	†	†	‡	‡	‡	
Officers	**2,162**	**628.42**	**45.28**	**9.3**		**12.6**	**26.3**
United States	2,008	631.36	42.29	9.0		12.4	25.8
Canadian	18	384.62	26.98	55.5		7.1	25.6
Austrian	1						
English	17	1,000.00	76.29			21.3	27.8
French	8	500.00	45.66			12.5	33.3
German	34	760.00	103.01			27.6	49.5
Irish	54	536.58	20.78	18.5		5.8	14.1
Scotch	8	500.00	25.57			7.0	18.7
Scandinavian	3						
Swiss	2						
All others	9	500.00	150.00			48.7	109.5
Enlisted men	**24,203**	**1,292.78**	**42.16**	**8.0**	**29.5**	**14.1**	**11.9**
United States	13,966	1,345.50	44.31	8.0	29.6	14.8	12.0
Canadian	458	1,214.29	38.18	4.4	17.5	12.8	11.5
Austrian	218	1,125.00	32.76	4.6	36.7	11.0	10.6
Dane	185	1,094.67	30.75		27.0	10.3	10.3
English	1,040	1,329.49	41.98	11.5	30.8	14.0	11.5
French	109	1,420.00	52.05		36.7	17.4	13.4
German	3,514	1,126.09	38.90	9.7	33.6	13.0	12.6
Irish	3,508	1,290.29	37.67	6.8	25.1	12.6	10.7
Scotch	239	1,456.62	62.66	12.6	50.2	20.9	15.7
Scandinavian	289	1,162.88	42.48			14.2	13.3
Swiss	231	1,231.13	42.25	8.7	26.0	14.2	12.5
All others	446	1,127.76	35.80	9.0	42.6	11.9	11.6
Officers and enlisted men	**26,365**	**1,246.88**	**42.38**	**8.1**	**27.1**	**14.0**	**12.4**

*As shown by returns of Adjutant General. †Based on mean strength reported by medical officers. ‡Based on mean strength shown by returns of the Adjutant General; see page 61.

Table showing, for **Various Armies**, *the ratios, per 1,000 of mean strength, of admissions to sick report, deaths, and discharges.*

Classified causes of admissions, deaths, and discharges.	United States, 1887.			United States, 1876–'85.		
	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Specific febrile and acute infectious diseases	*21.94	†.68	‡	*25.39	†.89	‡
Malarial diseases	102.60	.34	.08	202.77	.29	
Typho-malarial fever	.63	.15		2.78	.38	
Diarrhœal diseases	138.71	.30	.42	215.73	.37	
Septic diseases	2.22	.19	.04	3.14	.07	
Venereal diseases	74.37		3.94	90.32	.04	
Zoögenous diseases	25.08			5.03	.004	
Dietic diseases	47.06	.15	.19	62.11	.26	
Constitutional diseases	88.71	.23	3.38	129.84	.85	
Developmental diseases	.50	.04	.83			
Parasitic diseases	3.27			3.09		
Diseases of the nervous system	68.79	.64	4.21	116.46	.59	
Diseases of the eye	22.78		1.14	25.45		
Diseases of the ear	6.50		.46	8.34	.01	
Diseases of the nose	1.76		.15			
Diseases of the respiratory system	114.72	1.59	2.77	210.29	1.05	
Diseases of the circulatory system	7.51	.64	1.71	7.60	.61	
Diseases of the digestive system	150.87	.42	1.71	183.09	.59	
Diseases of the lymphatic system	6.63		.08			
Diseases of the genito-urinary system (non-venereal)	17.32	.23	1.59	15.98	.24	
Diseases of the locomotor system	5.87		1.59	4.49	.02	
Diseases of the integumentary system	79.44		.19	110.71		
All other diseases	14.68	.04	.11	4.85	.04	
Injuries	244.91	2.47	2.50	243.64	5.02	
Total	**1,246.88**	**8.12**	**27.08**	**1,672.15**	**11.34**	**31.96**

* Based on mean strength reported by medical officers. † Based on mean strength shown by returns of the Adjutant General: see page 61. ‡ Excluding muscular rheumatism. Including muscular rheumatism.

Table showing, for **Various Armies,** *the ratios, per 1,000 of mean strength, of admissions to sick report, deaths, and discharges.—Continued.*

Classified causes of admissions, deaths, and discharges.	Austria-Hungary, 1886.			Belgium, 1886.		
	Admissions. *	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Specific febrile and acute infectious diseases	10.13	1.36	.09	10.20	1.15	.....
Malarial diseases	43.06	.01	.11	.63	.....	.02
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœal diseases	65.50	.07	.....	.67	.....	.....
Septic diseases	1.29	.06	.....	3.32	.....	.....
Venereal diseases	65.80	.01	.07	45.14	.....	.....
Zoögenous diseases	.05	.01	.....	1.15	.06	.....
Dietic diseases	1.92	.01	.02	.53	.04	.....
Constitutional diseases	19.28	.34	1.82	29.50	.08	.57
Developmental diseases	.01	.01	.14	.59	.02	1.07
Parasitic diseases	5.78	.....	.....	.51	.....	.....
Diseases of the nervous system	7.11	.39	1.61	10.66	.22	.75
Diseases of the eye	54.90	.....	5.25	28.81	.....	.69
Diseases of the ear	14.18	.....	3.55	8.90	.....	.39
Diseases of the nose	.19	.....	.01	.61	.....	.02
Diseases of the respiratory system	150.68	2.20	5.45	37.14	1.46	1.32
Diseases of the circulatory system	19.89	.16	2.85	5.02	.14	.99
Diseases of the digestive system	178.17	.36	6.75	60.72	.20	1.32
Diseases of the lymphatic system	8.27	.01	1.54	5.68	.06	.02
Diseases of the genito-urinary system (non-venereal)	16.50	.14	1.37	5.40	.06	.22
Diseases of the locomotor system	46.78	.09	5.03	5.44	.04	.45
Diseases of the integumentary system	218.35	.07	1.27	36.42	.02	.34
All other diseases	20.36	.....	8.17	9.69	.83	.44
Injuries	147.29	1.94	2.94	42.53	.74	.34
Total	**1,095.49**	**7.24**	**48.04**	†**349.26**	**5.12**	**8.95**

REMARKS: * *Austria.*—Including patients remaining from 1885. † *Belgium.*—Including cases treated in quarters (diseases not given), the admission rate is 1,520.56 per 1,000 of mean strength.

Table showing, for **Various Armies,** *the ratios, per 1,000 of mean strength, of admissions to sick report, deaths, and discharges.—Continued.*

Classified causes of admissions, deaths, and discharges.	France. 1884.			Great Britain. (Home and Colonial). 1885.		
	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Specific febrile and acute infectious diseases	*a* 20.38	3.02	.....	18.22	3.67	.02
Malarial diseases	21.02	.18	.02	148.43	.25	.02
Typho-malarial fever	.....	.....	.....	.02	.....	.....
Diarrhœal diseases	*b*	.22	.01	42.10	.56	.01
Septic diseases	*c*	.09	.01	2.23	.02	.02
Venereal diseases	52.16	.01	.03	286.63	.02	.48
Zoögenous diseases	.01	.01	.....	.07	.01	.....
Dietic diseases	.31	.03	.....	5.67	.29	.....
Constitutional diseases	25.96	.14	.63	49.05	.22	.85
Developmental diseases	*d*	.....	.....	.....	.....	.....
Parasitic diseases	*e*	.....	.....	*h*	.....	.....
Diseases of the nervous system	6.14	.44	1.07	14.84	.75	2.91
Diseases of the eye	9.16	.....	1.85	17.05	.....	.84
Diseases of the ear	4.82	.01	.68	9.98	.....	.75
Diseases of the nose	*f*	.....	.....	.59	.....	.01
Diseases of the respiratory system	58.53	2.04	4.66	58.92	2.49	3.42
Diseases of the circulatory system	10.70	.14	2.10	11.67	.47	3.49
Diseases of the digestive system	131.58	.27	.84	108.35	.95	1.31
Diseases of the lymphatic system	*g*	.02	.16	16.85	.01	.10
Diseases of the genito-urinary system (non-venereal)	14.08	.09	.45	24.45	.16	.53
Diseases of the locomotor system	20.23	.07	1.37	6.34	.03	.89
Diseases of the integumentary system	50.71	.05	.53	113.02	.02	.36
All other diseases	10.11	.02	.70	83.44	.17	1.97
Injuries	47.49	.78	1.26	113.45	1.35	1.30
Total	***483.39**	**7.64**	**16.37**	**1,131.38**	**11.44**	**19.28**

REMARKS: * *France.*—Including cases treated in quarters (diseases not given) the admission rate is 2,107.69 per 1,000 of mean strength. *a* Exclusive of mumps and diphtheria entered under diseases of the digestive system. *b* Entered under diseases of the digestive system. *c* Entered under constitutional diseases and diseases of the integumentary system. *d* Entered under constitutional diseases. *e* Entered under diseases of the digestive and integumentary systems. *f* Entered under diseases of the respiratory system. *g* Entered under diseases of the circulatory system. *Great Britain.*—*h* Scabies included under diseases of the integumentary system.

Table showing, for **Various Armies,** *the ratios, per 1,000 of mean strength, of admissions to sick report, deaths, and discharges.—Continued.*

Classified causes of admissions, deaths, and discharges.	Italy, 1885.			Prussia and Würtemberg, 1881–'82.		
	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Specific febrile and acute infectious diseases	20.07	3.20	.05	9.88	.71	.04
Malarial diseases	24.18	.18	.29	19.46	.....	.....
Typho-malarial fever	.....	.....	.....	.....	.....	.....
Diarrhœal diseases	7.63	.01	.....	14.94	.10	.....
Septic diseases	3.82	.09	.....	2.51	.04	.....
Venereal diseases	49.52	.....	.04	19.96	.02	.08
Zoögenous diseases	.09	.01	.....	.42	.01	.....
Dietic diseases	.82	.01	.02	.52	.04	.....
Constitutional diseases	12.07	.29	1.47	16.87	.06	.70
Developmental diseases	.....	.01	.16	.02	.21	.34
Parasitic diseases	.21	.....	.....	6.86	.....	.....
Diseases of the nervous system	6.11	.68	1.41	3.88	.23	2.23
Diseases of the eye	16.46	.....	.97	25.09	.....	2.87
Diseases of the ear	5.20	.01	.21	9.09	.03	2.73
Diseases of the nose	.16	.....	.07	*a*	.01	.03
Diseases of the respiratory system	53.98	3.87	3.72	57.93	1.46	5.09
Diseases of the circulatory system	1.21	.13	.98	1.79	.08	2.05
Diseases of the digestive system	41.54	.62	2.78	85.71	.18	3.74
Diseases of the lymphatic system	6.82	.01	.22	8.16	.01	.29
Diseases of the genito-urinary system (non-venereal)	4.79	.05	.29	6.97	.09	.53
Diseases of the locomotor system	9.06	.09	1.02	26.83	.05	4.36
Diseases of the integumentary system	24.30	.07	.17	120.68	.02	1.07
All other diseases	60.30	.15	.05	7.88	.....	.50
Injuries	16.49	.83	.21	106.90	1.18	.65
Total	***364.83**	**10.31**	**14.13**	**†573.35**	**4.54**	**27.29**

REMARKS: * *Italy.*—Including cases treated in quarters and civilian hospitals (diseases not given), the admission rate is 791.83 per 1,000 of mean strength. † *Prussia and Würtemberg.*—Including all patients who were excused from any portion of their military duty, the admission rate is 1,134.95 per 1,000 of mean strength. *a* Entered under diseases of the respiratory system.

Table showing number of rejections, with causes, and ratios per 1,000, among 17,412 **Recruits** *examined during the year 1887.*

[Total number of recruits examined, 17,412; white, 15,584, colored, 1,828.]

Causes of rejection.	White.				Colored.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratio per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratio per 1,000.
Malarial diseases	1		1	.1				
Enthetic diseases	368	7	375	24.1	90	2	92	50.3
Dietic diseases	309	1	301	19.3	8		8	4.4
Constitutional diseases	44	3	47	3.0	3		3	1.6
Developmental defects	466	1	467	30.0	42		42	23.0
Parasitic diseases	37		37	2.4	6		6	3.3
Diseases of the nervous system	22	6	28	1.8	7	2	9	4.9
Diseases of the eye	1,151	5	1,156	74.2	93		93	50.9
Diseases of the ear	179	1	180	11.6	10		10	5.5
Diseases of the nose	19		19	1.2	1		1	.5
Diseases of the respiratory system	390	1	391	25.1	58		58	31.7
Diseases of the circulatory system	793	5	798	51.2	60		60	32.8
Diseases of the digestive system	756	7	763	49.0	72		72	39.4
Diseases of the lymphatic system	61	1	62	4.0	29		29	15.9
Diseases of the urinary system	4	2	6	.4	4		4	2.2
Diseases of the reproductive system	625	6	631	40.5	63		63	34.5
Diseases and injuries of the locomotor system	651	2	653	41.9	75		75	41.0
Diseases of the integumentary system	222		222	14.2	15		15	8.2
Results of injnries	99	3	102	6.5	16		16	8.8
General unfitness	882		882	56.6	54		54	29.5
Over age	63		63	4.0	8		8	4.4
Under age	428		428	27.5	85		85	46.5
Over height	46		46	3.0	34		34	18.6
Under height	376		376	24.1	67		67	36.7
Over weight	58		58	3.7	24		24	13.1
Under weight	523		523	33.6	41		41	22.4
Imperfect knowledge of English	134		134	8.6				
Doubtful character	71		71	4.6	34		34	18.6
Previously discharged for disability	2		2	.1				
Deserter from U. S. Army	2		2	.1				
Deserter from other army	2		2	.1				
Fraudulent enlistment		2	2	.1				
Unclassified	114		114	7.3	31		31	17.0
Aggregate	**8,889**	**53**	**8,942**	**573.8**	**1,030**	**4**	**1,034**	**565.6**

Table showing number of rejections, with causes, and ratios per 1,000, among 17,412 **Recruits** *examined during the year 1887.—Continued.*

Causes of rejection.	Total, white and colored.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratio per 1,000.
Malarial diseases	1		1	.1
Enthetic diseases	458	9	467	26.8
Dietic diseases	308	1	309	17.7
Constitutional diseases	47	3	50	2.9
Developmental defects	508	1	509	29.2
Parasitic diseases	43		43	2.5
Diseases of the nervous system	29	8	37	2.1
Diseases of the eye	1,244	5	1,249	71.7
Diseases of the ear	189	1	190	10.9
Diseases of the nose	20		20	1.1
Diseases of the respiratory system	448	1	449	25.8
Diseases of the circulatory system	853	5	858	49.3
Diseases of the digestive system	828	7	835	48.0
Diseases of the lymphatic system	90	1	91	5.2
Diseases of the urinary system	8	2	10	.6
Diseases of the reproductive system	688	6	694	39.9
Diseases and injuries of the locomotor system	726	2	728	41.8
Diseases of the integumentary system	237		237	13.6
Results of injuries	115	3	118	6.8
General unfitness	936		936	53.8
Over age	71		71	4.1
Under age	513		513	29.5
Over height	80		80	4.6
Under height	443		443	25.4
Over weight	82		82	4.7
Under weight	564		564	32.4
Imperfect knowledge of English	134		134	7.7
Doubtful character	105		105	6.0
Previously discharged for disability	2		2	.1
Deserter from U. S. Army	2		2	.1
Deserter from other army	2		2	.1
Fraudulent enlistment		2	2	.1
Unclassified	145		145	8.3
Aggregate	**9,919**	**57**	**9,976**	**572.9**

NOTE.—Indians are not included in this table; there were 371 examined, of which number 3 were rejected, or 8.1 per 1,000.

Table showing the principal statistics relative to the health of troops serving in **Various Regions.**

Including all diseases and injuries.

Regions.	*Mean strength.	Ratios per 1,000 of mean strength.				Period of greatest sickness.	Period of least sickness.	Prevailing causes of sickness during the year.
		Admissions.	Non-effectiveness.	Deaths.	Discharges for disability.			
Atlantic Coast..	2,285	1,394.75	39.27	7.44	27.13	May, June, and July.	November and December.	Injuries; diseases of the respiratory system; venereal diseases.
Eastern Timbered Plains and Hills.	917	1,427.48	35.11	9.81	16.36	October, November, and December.	April and May.	Injuries; venereal diseases; malarial diseases.
Appalachian ...	68	1,250.00	26.07	44.12	.....	November and December.	April and May.	Specific febrile and acute infectious diseases; venereal diseases; diseases of the digestive system.
Northern Lakes.	1,207	892.29	25.72	9.11	20.71	January and February.	April, May, and June.	Injuries; venereal diseases; diseases of the digestive system.
Central Timbered Plains and Hills.	1,309	1,944.23	79.07	17.57	29.03	February, March, and April.	October and November.	Malarial diseases; venereal diseases; injuries.
Gulf Coast.....	300	1,216.67	49.50	6.67	63.33	September and October.	April and May.	Venereal diseases: injuries: malarial diseases.
Prairies	4,045	1,343.63	45.19	5.45	25.71	September and October.	February and March.	Injuries; venereal diseases; malarial diseases.
Great Plains ...	6,707	1,209.48	39.33	7.45	26.39	September and October.	November and December.	Injuries; venereal diseases; diseases of the respiratory system.
Cordilleras	5,362	1,157.22	40.72	10.07	32.45	August, September, and October.	January and February.	Injuries; venereal diseases; diseases of the digestive system.
Pacific Coast ...	1,620	861.11	33.77	6.17	33.33	October, November, and December.	May and June.	Injuries; venereal diseases; constitutional diseases.
Whole Army...	†23,841	1,246.88	42.38	‡8.12	‡27.08	September and October.	November and December.	Injuries; venereal diseases; diseases of the respiratory system.

*As shown by reports of medical officers, and used in calculating *all* ratios, except those of death and discharge for the whole Army.

†Including the Army and Navy General Hospital at Hot Springs, Ark., with a mean strength of 21.

‡Calculated on a mean strength of 26,365, as shown by returns of the Adjutant General: see page 61.

Table showing the principal statistics relative to the health of troops serving in **Various Regions.**—*Continued.*

Excluding injuries, venereal diseases, and alcoholism.

Regions.	*Mean strength.	Ratios per 1,000 of mean strength.				Period of greatest sickness.	Period of least sickness.	Prevailing diseases during the year.
		Admissions.	Non-effectiveness.	Deaths.	Discharges.			
Atlantic Coast	2,285	1,046.83	28.27	3.94	21.01	July, August, and September.	November and December.	Respiratory system; digestive system; locomotor system; integumentary system.
Eastern Timbered Plains and Hills.	917	1,124.32	23.93	8.72	9.81	October, November, and December.	April and May.	Malarial; respiratory system; digestive system.
Appalachian	68	985.29	19.26	44.12	.....	November and December.	May and June.	Specific febrile; digestive system; locomotor system.
Northern Lakes.	1,207	585.75	15.04	3.31	14.91	July and August.	November and December.	Digestive system; respiratory system; nervous system.
Central Timbered Plains and Hills.	1,309	1,443.85	57.21	16.04	17.57	February, March, and April.	October and November	Malarial; vaccina; respiratory system; diarrhœa.
Gulf Coast	300	806.67	32.80	3.33	23.33	September and October.	January, February, and March	Malarial; circulatory system; integumentary system; rheumatism.
Prairies	4,045	964.05	29.79	3.46	19.04	August, September, and October.	May and June.	Malarial; digestive system; rheumatism.
Great Plains	6,707	829.13	24.67	4.62	20.58	July, August, and September.	November and December.	Respiratory system; rheumatism; digestive system.
Cordilleras	5,362	801.01	26.77	6.71	24.62	August, September, and October.	January and February.	Digestive system; respiratory system; rheumatism.
Pacific Coast	1,620	562.96	21.60	3.09	25.93	December	May and June.	Digestive system; articular rheumatism; respiratory system; locomotor system.
Whole Army	†23,841	881.29	28.10	‡5.50	‡20.48	August, September, and October.	May and June.	Respiratory system; digestive system; constitutional diseases.

* As shown by reports of medical officers, and used in calculating *all* ratios, except those of death and discharge for the whole Army.

† Including the Army and Navy General Hospital at Hot Springs, Ark., with a mean strength of 21.

‡ Calculated on a mean strength of 26,365, as shown by returns of the Adjutant General; see page 61.

Table showing for the whole Army, and for the white and colored troops separately, the mean strength of command, and the principal causes and **Number** *of admissions to sick report, deaths and discharges, occurring during the year* 1887.

		The Whole Army.			White.			Colored.		
	Mean strength (reported by medical officers)	23,841.			21,601.			2,240.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	174	17	.....	162	15	.....	12	2	.....
2	Other specific febrile and acute infectious diseases, including erysipelas	400	4	1	332	4	1	68	.....	.....
3	Malarial fevers and resulting conditions	2,446	9	2	2,191	8	2	255	1	.....
4	Typho-malarial fever	15	4	.....	13	3	.....	2	1	.....
5	Diarrhœa, including cholera morbus	3,090	4	8	2,820	4	7	270	.....	1
6	Dysentery	217	4	3	197	3	3	20	1	.....
7	Other miasmatic diseases	3	2	.....	3	2	.....	.....	.....	.....
8	Gonorrhœa and results	775	.....	7	701	.....	7	74	.....	.....
9	Syphilis and results	548	.....	95	482	.....	84	66	.....	11
10	Other venereal diseases	450	.....	2	375	.....	2	75	.....	.....
11	Vaccina	539	.....	.....	485	.....	.....	54	.....	.....
12	Other enthetic diseases	59	.....	.....	54	.....	.....	5	.....	.....
13	Alcoholism	1,104	4	4	1,099	4	4	5	.....	.....
14	Other dietic diseases	18	.....	1	18	.....	1	.....	.....	.....
15	Rheumatism, including muscular	2,030	1	75	1,766	1	66	264	.....	9
16	Other constitutional diseases	85	5	14	66	3	9	19	2	5
17	Devolopmental diseases	12	1	22	11	1	20	1	.....	2
18	Parasitic diseases	78	.....	.....	78	.....	.....	.....	.....	.....
19	Headache and neuralgia	1,356	.....	12	1,175	.....	10	181	.....	2
20	Other diseases of the nervous system	284	17	99	260	16	88	24	1	11
21	Diseases of the eye	543	.....	30	481	.....	26	62	.....	4
22	Diseases of the ear	155	.....	12	149	.....	12	6	.....	.....
23	Catarrhs and common colds	709	.....	.....	629	.....	.....	80	.....	.....
24	Bronchitis	1,643	1	15	1,440	1	13	196	.....	2
25	Pneumonia	99	26	.....	86	21	.....	13	5	.....
26	Pulmonary phthisis	81	13	48	67	11	41	14	2	7
27	Pleuritis	59	.....	2	49	.....	2	10	.....	.....
28	Other diseases of the respiratory system	144	2	8	111	1	8	33	1	.....
29	Diseases of the heart and valves	148	16	37	135	16	32	13	.....	5
30	Other diseases of the circulatory system	31	1	8	30	1	8	1	.....	.....
31	Tonsilitis	859	.....	1	749	.....	1	110	.....	.....
32	Dyspepsia, colic, and constipation	1,281	.....	3	1,123	.....	3	158	.....	.....
33	Other diseases of the digestive system	1,457	11	41	1,325	9	40	132	2	1
34	Diseases of the kidneys	52	6	9	46	5	8	6	1	1
35	Other diseases of the genito-urinary system (non-venereal)	361	.....	33	320	.....	28	41	.....	5
36	Diseases of the locomotor system (excluding muscular rheumatism)	140	.....	42	126	.....	40	14	.....	2
37	Diseases of the integumentary system	1,894	.....	5	1,768	.....	5	126	.....	.....
38	All other diseases	549	1	9	509	1	7	40	.....	2
39	Heat stroke	45	.....	.....	44	.....	.....	1	.....	.....
40	Frost-bite and general freezing	107	2	1	71	1	1	36	1	.....
41	Contusions and sprains	3,272	.....	7	2,910	.....	6	362	.....	1
42	Dislocations	56	.....	2	53	.....	2	3	.....	.....
43	Fractures (not gunshot)	159	1	11	143	1	9	6	.....	2
44	Incised, lacerated, contused, and punctured wounds	1,175	2	3	1,017	2	3	158	.....	.....
45	Shot wounds	110	26	14	82	21	11	28	5	3
46	All other injuries	915	34	28	832	33	27	83	1	1
	Total for disease	23,888	149	648	21,438	130	578	2,450	19	70
	Total for injury	5,839	65	66	5,162	58	59	677	7	7
	Total for all causes	29,727	214	714	26,600	188	637	3,127	26	77

Table showing, for each region and each military station therein, admissions to sick report, deaths and dis-

	Names of regions and military stations	Atlantic Coast.			Fort Preble, Me.			Fort Warren, Mass.		
	Mean strength (reported by medical officers)	2,285.			39.			73.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	23	3							
2	Other specific febrile and acute infectious diseases, including erysipelas	71			1					
3	Malarial fevers and resulting conditions	156			1					
4	Typho-malarial fever	1	1							
5	Diarrhœa, including cholera morbus	426			3			13		
6	Dysentery	22	1	1						
7	Other miasmatic diseases		1							
8	Gonorrhœa and results	69		1	1			4		
9	Syphilis and results	49		7				1		
10	Other venereal diseases	29								
11	Vaccina	150			8			3		
12	Other enthetic diseases									
13	Alcoholism	171			1			7		
14	Other dietic diseases									
15	Rheumatism, including muscular	193		5	11			5		
16	Other constitutional diseases	9		1						
17	Developmental diseases	2		5						
18	Parasitic diseases	11								
19	Headache and neuralgia	102		1	2			3		
20	Other diseases of the nervous system	27	1	7	1					
21	Diseases of the eye	36		1	1			1		
22	Diseases of the ear	22			2					
23	Catarrhs and common colds	104			11			8		
24	Bronchitis	236		1				3		
25	Pneumonia	14								
26	Pulmonary phthisis	4	2	4					1	
27	Pleuritis	3								
28	Other diseases of the respiratory system	22								
29	Diseases of the heart and valves	7		2						
30	Other diseases of the circulatory system	1								
31	Tonsillitis	88			3			1		
32	Dyspepsia, colic, and constipation	177		1	12			2		
33	Other diseases of the digestive system	152		6	4			3		
34	Diseases of the kidneys	1								
35	Other diseases of the genito-urinary system (non-venereal)	38		7						
36	Diseases of the locomotor system (excluding muscular rheumatism)	19		4			1			
37	Diseases of the integumentary system	230		1	1			5		
38	All other diseases	45		1	2					
39	Heat stroke	4								
40	Frost-bite and general freezing									
41	Contusions and sprains	267			5			8		
42	Dislocations	2						1		
43	Fractures (not gunshot)	11		1				3		
44	Incised, lacerated, contused, and punctured wounds	101			2			2		
45	Shot wounds	3		2						
46	All other injuries	89	8	3	5	1		6		
	Total for disease	2,710	9	56	65		1	59	1	
	Total for injury	477	8	6	12	1		20		
	Total for all causes	3,187	17	62	77	1	1	79	1	

the mean strength of command, and the causes and **Number** *of charges occurring during the year 1887.*

	Watertown Arsenal, Mass.			Fort Adams, R. I.			Fort Trumbull, Conn.			Fort Columbus, N. Y.		
	33.			235.			70.			153.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2				9						2		
3	2			3						4		
4												
5	1			17			5			22		
6										3		
7											1	
8	1			3						2		
9	2		1	2			1			2		
10				2						2		
11										7		
12												
13	4			16						14		
14												
15	6			14			3		1	7		
16				6								
17						1						
18										1		
19				8			3			3		
20	5		1				1			3		2
21				2		1				6		
22				2						4		
23	6			1			1			6		
24	2			6			4			9		
25				5								
26										1		
27										1		
28				13			1			3		
29	1			1		1				1		
30												
31				5			1			2		
32	1			9			2			8		
33	2			19						12		1
34										1		
35	3			6		3				2		
36				3								
37	1			12			3			5		
38				9								
39												
40												
41	2			22			7			14		
42				1								
43				1						1		
44	1			12						2		
45				1			1		1	1		
46	4			6						4		1
	37		2	173		6	25		1	133	1	3
	7			43			8		1	22		1
	44		2	216		6	33		2	155	1	4

Table showing, for each region and each military station therein, admissions to sick report, deaths and dis-

	Names of regions and military stations	Fort Schuyler, N. Y.			Fort Hamilton, N. Y.			Fort Wadsworth, N. Y.		
	Mean strength (reported by medical officers)	69.			175.			40.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged,
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas				1					
3	Malarial fevers and resulting conditions	1			36			4		
4	Typho-malarial fever				1	1				
5	Diarrhœa, including cholera morbus	18			14			9		
6	Dysentery	1			1					
7	Other miasmatic diseases									
8	Gonorrhœa and results	2			2					
9	Syphilis and results				10		1			
10	Other venereal diseases									
11	Vaccina				2			1		
12	Other enthetic diseases									
13	Alcoholism	2			8					
14	Other dietic diseases									
15	Rheumatism, including muscular	9			14			1		
16	Other constitutional diseases									
17	Developmental diseases									1
18	Parasitic diseases									
19	Headache and neuralgia	3			11		1	2		
20	Other diseases of the nervous system	1	1					2		
21	Diseases of the eye	2			2					
22	Diseases of the ear									
23	Catarrhs and commoncolds	5			12					
24	Bronchitis	10			2			3		
25	Pneumonia	1								
26	Pulmonary phthisis							1		1
27	Pleuritis	1								
28	Other diseases of the respiratory system	1								
29	Diseases of the heart and valves	1								
30	Other diseases of the circulatory system									
31	Tonsillitis	1			3			1		
32	Dyspepsia, colic, and constipation	5			10			1		
33	Other diseases of the digestive system	2			6			4		1
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	1		1	1					
36	Diseases of the locomotor system (excluding muscular rheumatism)			1	1					
37	Diseases of the integumentary system	3			15					
38	All other diseases	1		1						
39	Heat stroke	4								
40	Frost-bite and general freezing									
41	Contusions and sprains	7			23			3		
42	Dislocations									
43	Fractures (not gunshot)				3		1			
44	Incised, lacerated, contused, and punctured wounds	5			12			4		
45	Shot wounds									
46	All other injuries	5		1	3					
	Total for disease	71	1	3	152	1	2	29		3
	Total for injury	21		1	41		1	7		
	Total for all causes	92	1	4	193	1	3	36		3

the mean strength of command, and the causes and **Number** *of charges occurring during the year 1887.—Continued.*

	Fort Wood, N. Y.			David's Island, N. Y.			Willets Point, N. Y.			New York City, N. Y.		
	15.			574.			380.			61.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1				2	2							
2				36			2					
3				22			39			1		
4												
5				57			186					
6				1			9	1	1			
7												
8				31		1	16					
9				13		1	7		4			
10				9			10					
11				127								
12												
13				4			65					
14												
15	1			33		2	53					
16				1			1					
17							2		3			
18				9								
19				27			21					
20				3			5		2			
21				13			5					
22				4			9					
23				40			2					
24				50			128			2		
25				7			1					
26						1	1	1	2	1		
27												
28				2			1					
29				2								
30							1					
31				53			13					
32	1			53		1	49					
33				33			54		3			
34												
35				11		1	6		1			
36				2		1	2		1			
37	1			86		1	65					
38				5			7					
39												
40												
41				45			85					
42												
43				2								
44				24			18					
45									1			
46				18	3		27	2				
	3			736	2	9	760	2	17	4		
				89	3		130	2	1			
	3			825	5	9	890	4	18	4		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Ft. Monroe, Va.			St. Francis Barracks, Fla.			In the field, Atlantic Coast.		
	Mean strength (reported by medical officers)	257.			96.			15.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	21	1							
2	Other specific febrile and acute infectious diseases, including erysipelas	20								
3	Malarial fevers and resulting conditions	8			33			2		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	55			17			9		
6	Dysentery	3			3			1		
7	Other miasmatic diseases									
8	Gonorrhœa and results	5			2					
9	Syphilis and results	4			7					
10	Other venereal diseases	6								
11	Vaccina	2								
12	Other enthetic diseases									
13	Alcoholism	31			19					
14	Other dietic diseases									
15	Rheumatism, including muscular	19			17		2			
16	Other constitutional diseases	1		1						
17	Developmental diseases									
18	Parasitic diseases	1								
19	Headache and neuralgia	10			9					
20	Other diseases of the nervous system	5		1	1		1			
21	Diseases of the eye	4								
22	Diseases of the ear	1								
23	Catarrhs and common colds	10			2					
24	Bronchitis	14		1	3					
25	Pneumonia									
26	Pulmonary phthisis									
27	Pleuritis	1								
28	Other diseases of the respiratory system	1								
29	Diseases of the heart and valves			1	1					
30	Other diseases of the circulatory system									
31	Tonsillitis	3			2					
32	Dyspepsia, colic, and constipation	19			5					
33	Other diseases of the digestive system	8			5		1			
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	5			3		1			
36	Diseases of the locomotor system (excluding muscular rheumatism)	11								
37	Diseases of the integumentary system	21			11			1		
38	All other diseases	19			1			1		
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	27			19					
42	Dislocations									
43	Fractures (not gunshot)	1								
44	Incised, lacerated, contused, and punctured wounds	16			2			1		
45	Shot wounds									
46	All other injuries	8	2		3		1			
	Total for disease	308	1	4	141		5	14		
	Total for injury	52	2		24		1	1		
	Total for all causes	360	3	4	165		6	15		

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Eastern Timbered Plains and Hills.			Kennebec Arsenal, Me.			Springfield Armory, Mass.			West Point, N. Y.		
	917.			16.			40.			328.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	4	1										
2	19						6			1		
3	242	1		1			6			41		
4												
5	184			3			3			36		
6	5									1		
7												
8	23									1		
9	33		4									
10	10						1			2		
11	4											
12												
13	34						5			2		
14	4											
15	81		2	4			3			27		
16	4						1			1		
17												
18	4											
19	50						8			22		
20	11	2	2	2				1		4		1
21	17									9		
22	4									2		
23	49			12			1			9		
24	109			4						48		
25	6	2								1		
26	4	1	1							3	1	
27	4			1						2		
28	2									1		
29	8	1	1				1			5	1	
30												
31	19			1			1			10		
32	48			1			2			26		
33	57		1	5			1			22		
34	3									1		
35	13		1							4		
36	1		1									
37	65			1						18		
38	10			4								
39	3									2		
40												
41	86						2			37		
42	2		1									
43	6									1		
44	46						1			19		
45	3											
46	32	1	1	1			2			11		
	1,131	8	13	39			39	1		299	2	1
	178	1	2	1			5			70		
	1,309	9	15	40			44	1		369	2	1

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Frankford Arsenal, Pa.			Philadelphia, Pa.			Fort McHenry, Md.		
	Mean strength (reported by medical officers)	34.			20.			117.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas							7		
3	Malarial fevers and resulting conditions	2						25		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	2						13		
6	Dysentery							1		
7	Other miasmatic diseases									
8	Gonorrhœa and results							11		
9	Syphilis and results							9		2
10	Other venereal diseases							1		
11	Vaccina							4		
12	Other enthetic diseases									
13	Alcoholism							4		
14	Other dietic diseases							1		
15	Rheumatism, including muscular	7						9		1
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases							2		
19	Headache and neuralgia							13		
20	Other diseases of the nervous system							2	1	1
21	Diseases of the eye							5		
22	Diseases of the ear									
23	Catarrh and common colds	4						1		
24	Bronchitis	1						27		
25	Pneumonia	1	1					2	1	
26	Pulmonary phthisis									
27	Pleuritis							1		
28	Other diseases of the respiratory system									
29	Diseases of the heart and valves	2								
30	Other diseases of the circulatory system									
31	Tonsillitis	2						4		
32	Dyspepsia, colic, and constipation							3		
33	Other diseases of the digestive system	3						11		
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	2						2		
36	Diseases of the locomotor system (excluding muscular rheumatism)									1
37	Diseases of the integumentary system	1						13		
38	All other diseases	2						1		
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains							6		
42	Dislocations							1		
43	Fractures not gunshot							1		
44	Incised, lacerated, contused, and punctured wounds	1						5		
45	Shot wounds							2		
46	All other injuries	1						4	1	
	Total for disease	32	1					172	2	5
	Total for injury	2						19	1	
	Total for all causes	34	1					191	3	5

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Myer, Va.			Washington Barracks, D. C.			Augusta Arsenal, Ga.			In the field, Eastern Timbered Plains and Hills.		
	64.			267.			27.			4.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	1			3	1							
2	1			3			1					
3	18	1		147						2		
4												
5	35			87			3			2		
6	1			2								
7												
8	5			6								
9	2		1	22		1						
10	4			2								
11												
12												
13	1			22								
14				3								
15	5			24		1	2					
16	1			1								
17												
18				2								
19	2			4			1					
20				3								
21				3								
22	1			1								
23	1			21								
24	2			23			1					
25	1			1								
26							1		1			
27												
28				1								
29						1						
30												
31				1								
32	3			12			1					
33	5			8		1	2					
34	1						1					
35	2		1	1			2					
36				1								
37	10			20			2					
38	2			1								
39	1											
40												
41	16			24			1					
42	1		1									
43	1			3								
44	5			13						2		
45				1								
46	6		1	6			1					
	104	1	2	425	1	4	17		1	4		
	30		2	47			2			2		
	134	1	4	472	1	4	19		1	6		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Appalachian Mountains.			Watervliet Arsenal, N. Y.			Allegheny Arsenal, Pa.		
	Mean strength (reported by medical officers)	68.			40.			28.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	2	1		1			1	1	
2	Other specific febrile and acute infectious diseases, including erysipelas	3			3					
3	Malarial fevers and resulting conditions	4			3			1		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	19			15			4		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results	1			1					
9	Syphilis and results	1			1					
10	Other venereal diseases	2			2					
11	Vaccina									
12	Other enthetic diseases									
13	Alcoholism	1						1		
14	Other dietic diseases									
15	Rheumatism, including muscular	11			8			3		
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia	6			4			2		
20	Other diseases of the nervous system									
21	Diseases of the eye									
22	Diseases of the ear									
23	Catarrhs and common colds	1			1					
24	Bronchitis	7			5			2		
25	Pneumonia	2	2		2	1			1	
26	Pulmonary phthisis									
27	Pleuritis									
28	Other diseases of the respiratory system									
29	Diseases of the heart and valves									
30	Other diseases of the circulatory system									
31	Tonsillitis	2			1			1		
32	Dyspepsia, colic, and constipation	2			2					
33	Other diseases of the digestive system	5			3			2		
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)									
36	Diseases of the locomotor system (excluding muscular rheumatism)	2						2		
37	Diseases of the integumentary system	1						1		
38	All other diseases									
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	6			4			2		
42	Dislocations									
43	Fractures (not gunshot)									
44	Incised, lacerated, contused, and punctured wounds	3			3					
45	Shot wounds									
46	All other injuries	4			2			2		
	Total for disease	72	3		52	1		20	2	
	Total for injury	13			9			4		
	Total for all causes	85	3		61	1		24	2	

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Northern Lakes.			Fort Brady, Mich.			Fort Mackinac, Mich.			St. Paul, Minn.		
	1,207.			72.			73.			29.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	3											
2	13						1					
3	53			1								
4												
5	95			14			11					
6	6			1			1					
7	1	1					1					
8	42		1	5			2					
9	21		4	3			1		1			
10	25		1	1								
11	19											
12	2											
13	48		1	10			3					
14												
15	57		3	3			6		1			
16	3						1					
17	3		2									
18	7											
19	43		1	3			5		1			
20	10											
21	26		2	2			1		1			
22	1											
23	28			4			1					
24	63			11			6					
25	1											
26	5	1	3									
27	2			1								
28	7											
29	9	2	2									
30	1		1									
31	49			2			3					
32	39			3			1					
33	64		4	10			7			1		
34	1											
35	17			2								
36	3											
37	62			6								
38	16						1					
39	2											
40	6						1					
41	113			15			5					
42	4						2					
43	6						1					
44	62	1		8			8					
45	4	2										
46	35	4		3			3	1				
	845	4	25	82			52		4	1		
	232	7		26			20	1				
	1,077	11	25	108			72	1	4	1		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Snelling, Minn.			Plattsburg Barracks, N. Y.			Madison Barracks, N. Y.		
	Mean strength (reported by medical officers)	300.			41.			225.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	3								
2	Other specific febrile and acute infectious diseases, including erysipelas	6			1					
3	Malarial fevers and resulting conditions	1						14		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	8			2			24		
6	Dysentery	1						2		
7	Other miasmatic diseases								1	
8	Gonorrhœa and results	5			2			2		
9	Syphilis and results	5		3	1			3		
10	Other venereal diseases	4			1			5		
11	Vaccina							3		
12	Other enthetic diseases	2								
13	Alcoholism				2			13		
14	Other dietic diseases									
15	Rheumatism, including muscular	11			2			19		2
16	Other constitutional diseases	1								
17	Developmental diseases	1		1						
18	Parasitic diseases							1		
19	Headache and neuralgia	6			2			11		
20	Other diseases of the nervous system	2			1					
21	Diseases of the eye	3		1	1			6		
22	Diseases of the ear	1								
23	Catarrhs and common colds							15		
24	Bronchitis	4						6		
25	Pneumonia	1								
26	Pulmonary phthisis	2	1	1						
27	Pleuritis	1								
28	Other diseases of the respiratory system	4								
29	Diseases of the heart and valves	4		2				3	1	
30	Other diseases of the circulatory system	1		1						
31	Tonsillitis	7			1			6		
32	Dyspepsia, colic, and constipation	12			1			8		
33	Other diseases of the digestive system	15		2				9		
34	Diseases of the kidneys	1								
35	Other diseases of the genito-urinary system (non-venereal)	3						1		
36	Diseases of the locomotor system (excluding muscular rheumatism)									
37	Diseases of the integumentary system	19			2			9		
38	All other diseases	4			1			4		
39	Heat stroke									
40	Frost-bite and general freezing	3						1		
41	Contusions and sprains	21			2			27		
42	Dislocations									
43	Fractures (not gunshot)	1						1		
44	Incised, lacerated, contused, and punctured wounds	21	1		3			14		
45	Shot wounds	4								
46	All other injuries	6			1			4		
	Total for disease	138	1	11	20			164	2	2
	Total for injury	56	1		6			47		
	Total for all causes	194	2	11	26			211	2	2

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Ontario, N. Y.			Fort Niagara, N. Y.			Fort Porter, N. Y.			Fort Wayne, Mich.		
	41.			87.			75.			166.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2	1						2			1		
3	4						3			26		
4												
5	2			11			2			16		
6							1					
7												
8	3						2			21		1
9	4									4		
10	1		1				4			9		
11							8			8		
12												
13	5			3			4			8		1
14												
15	1			1			2			10		
16							1					
17				2		1						
18							6					
19	3						4			9		
20				2			1			3		
21										12		
22												
23	6											
24	1			8			11			14		
25												
26				1		1				1		1
27												
28							2			1		
29										2	1	
30												
31	3			10			6			10		
32	3						4			5		
33				1		1	2			14		1
34												
35	2						3			6		
36										3		
37				4			4			17		
38				1								
39										4		
40										2 1		
41	2			6			13			19		
42				1			1					
43	1			1								
44	2			3			2			1		
45											2	
46		1		1			3	1		10	1	
	39		1	44		3	72			204	1	4
	5	1		12			19	1		33	3	
	44	1	1	56		3	91	1		237	4	4

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Chicago, Ill.			Camp at Highwood, Ill.			In the field, Northern Lakes.		
	Mean strength (reported by medical officers)	51.			12.			35.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas	1								
3	Malarial fevers and resulting conditions	1			1			2		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	1						4		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results									
9	Syphilis and results									
10	Other venereal diseases									
11	Vaccina									
12	Other enthetic diseases									
13	Alcoholism									
14	Other dietic diseases									
15	Rheumatism, including muscular	1			1					
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia									
20	Other diseases of the nervous system							1		
21	Diseases of the eye				1					
22	Diseases of the ear									
23	Catarrhs and common colds				2					
24	Bronchitis	1						1		
25	Pneumonia									
26	Pulmonary phthisis									
27	Pleuritis									
28	Other diseases of the respiratory system									
29	Diseases of the heart and valves									
30	Other diseases of the circulatory system									
31	Tonsillitis	1								
32	Dyspepsia, colic, and constipation				1			1		
33	Other diseases of the digestive system	3						2		
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)									
36	Diseases of the locomotor system (excluding muscular rheumatism)									
37	Diseases of the integumentary system							1		
38	All other diseases				1					
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains				2			1		
42	Dislocations									
43	Fractures (not gunshot)							1		
44	Incised, lacerated, contused, and punctured wounds									
45	Shot wounds									
46	All other injuries	2			1			1		
	Total for disease	10			7			12		
	Total for injury	2			3			3		
	Total for all causes	12			10			15		

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Central Timbered Plains and Hills.			Columbus Barracks, Ohio.			Newport Barracks, Ky.			Indianapolis Arsenal, Ind.		
	1,309.			399.			40.			27.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	10	3										
2	56	1		28			1					
3	427	3		76			6			8		
4												
5	293		1	36			2			7		
6	5									1		
7												
8	155		1	100								
9	58		11	26		10						
10	60			29								
11	234			115								
12	6			5								
13	21			7			1					
14												
15	130		6	12		3	1			6		1
16	3	1	1									
17	1	1	1									
18	14			12								
19	64		3	5			1			8		
20	26	1	2	9			2					
21	47			27			1					
22	12			7			1			1		
23	21						1					
24	77		2	19		1	2					
25	23	5		3			1			1		
26	7	1	2	1			1		1			
27	5			2			1					
28	3	1		2								
29	4	1		2								
30	1			1								
31	109			54						4		
32	57			26			2			1		
33	71	2		44			1			3		
34	6	1	1	4	1	1				1		
35	28		1	5						1		
36	5		1	2								
37	151		1	20			2					
38	24		1	10			1			7		
39	1											
40	4											
41	220			50			1			2		
42	4			1								
43	2											
44	55		1	17		1	2			1		
45	4		1	1								
46	71	2	1	17	1		1			3		
	2,184	21	35	689	1	15	28		1	49		1
	361	2	3	86	1	1	4			6		
	2,545	23	38	775	2	16	32		1	55		1

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Jefferson Barracks, Mo.			Little Rock Barracks, Ark.			Mt. Vernon Barracks, Ala.		
	Mean strength (reported by medical officers)	669.			104.			70.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	8	3		2					
2	Other specific febrile and acute infectious diseases, including erysipelas	26	1		1					
3	Malarial fevers and resulting conditions	269	3		59			9		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	218			17			13		1
6	Dysentery				4					
7	Other miasmatic diseases									
8	Gonorrhœa and results	47		1	6			2		
9	Syphilis and results	22			9		1	1		
10	Other venereal diseases	31								
11	Vaccina	113			3			3		
12	Other enthetic diseases							1		
13	Alcoholism				5			8		
14	Other dietic diseases									
15	Rheumatism, including muscular	72		2	6			3		
16	Other constitutional diseases	2					1	1	1	
17	Developmental diseases							1	1	1
18	Parasitic diseases	2								
19	Headache and neuralgia	41		3	2			7		
20	Other diseases of the nervous system	15	1	2						
21	Diseases of the eye	18			1					
22	Diseases of the ear	2			1					
23	Catarrhs and commoncolds	20								
24	Bronchitis	52		1	4					
25	Pneumonia	16	5		2					
26	Pulmonary phthisis	5	1	1						
27	Pleuritis	2								
28	Other diseases of the respiratory system	1	1							
29	Diseases of the heart and valves	2	1							
30	Other diseases of the circulatory system									
31	Tonsillitis	49			1			1		
32	Dyspepsia, colic, and constipation	16			11			1		
33	Other diseases of the digestive system	15	2		6			2		
34	Diseases of the kidneys	1								
35	Other diseases of the genito-urinary system (non-venereal)	20			2		1			
36	Diseases of the locomotor system (excluding muscular rheumatism)	3		1						
37	Diseases of the integumentary system	108		1	14			7		
38	All other diseases	5		1	1					
39	Heat stroke	1								
40	Frost-bite and general freezing	3			1					
41	Contusions and sprains	149			11			7		
42	Dislocations	2						1		
43	Fractures (not gunshot)	1			1					
44	Incised, lacerated, contused, and punctured wounds	27			4			4		
45	Shot wounds	3		1						
46	All other injuries	40	1	1	7			3		
	Total for disease	1,201	18	13	157		3	60	2	2
	Total for injury	226	1	2	24			15		
	Total for all causes	1,427	19	15	181		3	75	2	2

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Gulf Coast.			Fort Barrancas, Fla.			Jackson Barracks, La.			New Orleans, La.		
	300.			81.			78.			8.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2	1									1		
3	61	1		10			5					
4												
5	19			9			3					
6	4						3					
7												
8	12			2			1					
9	18		11				4			1		
10	11			3			1					
11	1						1					
12	1											
13	19	1		3			13	1				
14										1		
15	23		1	1			5					
16												
17												
18												
19	15			9			1					
20	4			2								
21	4		1	1		1						
22												
23	12						11					
24	4			3			1					
25												
26	3		2	3		2						
27	1			1								
28												
29			1									
30	1			1								
31	3			2								
32	14		1	7			4					
33	15		1	6			3					
34	1			1								
35	3											
36	1						1					
37	38			5			5					
38	13			3								
39	1											
40												
41	40			9			5					
42	1											
43	2		1									
44	14			2			2					
45	1											
46	4			1								
	302	2	18	72		3	62	1		3		
	63		1	12			7					
	365	2	19	84		3	69	1		3		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Brown, Tex.			In the field, Gulf Coast.			Prairies.		
	Mean strength (reported by medical officers)	132.			1.			4,045.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever							16	1	
2	Other specific febrile and acute infectious diseases, including erysipelas							50		1
3	Malarial fevers and resulting conditions	46	1					628	1	1
4	Typho-malarial fever							7	3	
5	Diarrhœa, including cholera morbus	7						616	1	
6	Dysentery	1						35		
7	Other miasmatic diseases									
8	Gonorrhœa and results	9						116		2
9	Syphilis and results	14		11				111		15
10	Other venereal diseases	6						57		
11	Vaccina							32		
12	Other enthetic diseases	1						10		
13	Alcoholism	3						169		
14	Other dietic diseases									
15	Rheumatism, including muscular	16		1				340		7
16	Other constitutional diseases							16		3
17	Devolopmental diseases									4
18	Parasitic diseases							10		
19	Headache and neuralgia	5						251		
20	Other diseases of the nervous system	2						40		14
21	Diseases of the eye	3						77		4
22	Diseases of the ear							37		3
23	Catarrhs and common colds	1						154		
24	Bronchitis							264		
25	Pneumonia							15	4	
26	Pulmonary phthisis							6	1	4
27	Pleuritis							10		
28	Other diseases of the respiratory system							55		2
29	Diseases of the heart and valves			1				29	2	9
30	Other diseases of the circulatory system							8		3
31	Tonsillitis	1						106		
32	Dyspepsia, colic, and constipation	3		1				207		
33	Other diseases of the digestive system	6		1				278		4
34	Diseases of the kidneys							5	1	2
35	Other diseases of the genito-urinary system (non-venereal)	3						72		6
36	Diseases of the locomotor system (excluding muscular rheumatism)							19		7
37	Diseases of the integumentary system	28						410		1
38	All other diseases	10						99		2
39	Heat stroke	1						18		
40	Frost-bite and general freezing							33	1	
41	Contusions and sprains	26						574		
42	Dislocations	1						10		
43	Fractures (not gunshot)	2		1				22		3
44	Incised, lacerated, contused, and punctured wounds	10						224		
45	Shot wounds	1						19	3	1
46	All other injuries	3						180	4	6
	Total for disease	165	1	15				4,355	14	94
	Total for injury	44		1				1,080	8	10
	Total for all causes	209	1	16				5,435	22	104

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Northern Group.			Fort Pembina, Dak.			Fort Totten, Dak.			Fort Sisseton, Dak.		
	1,349.			84.			124.			98.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2	4						2					
3	43			4			3			1		
4	1											
5	128			20			6			5		
6	2											
7												
8	31		1	3			3					
9	13		3				2		3	2		
10	7											
11	3									2		
12	3											
13	60			3			2					
14												
15	114		1	11			8			7		
16	6									1		
17			1									
18	2											
19	95			18			13			7		
20	8		3	1		1						
21	23		2	5		2				1		
22	10		1	3			1					
23	45			23						6		
24	108			4			6			1		
25	6	2								2		
26	2		3									
27	1											
28	7									1		
29	3	1	1				1	1	1	1		
30	3		1	1								
31	59			1			2			3		
32	72			8			4			9		
33	77		1	6			3			12		
34	1	1								1	1	
35	26		4	3		1	3		1			
36	9		3	1			1					
37	115			8			17			5		
38	37			2			6					
39	5											
40	18	1		3						4	1	
41	210			23			15			14		
42	4			1								
43	8		2	2								
44	89			9			7			4		
45	4						1			2		
46	55	1	2	4			7			3		
	1,124	4	25	125		4	83	1	5	67	1	
	393	2	4	42			30			27	1	
	1,517	6	29	167		4	113	1	5	94	2	

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Buford, Dak.			Fort A. Lincoln, Dak.			Fort Yates, Dak.		
	Mean strength (reported by medical officers)	278.			113.			269.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas									
3	Malarial fevers and resulting conditions	10						19		
4	Typho-malarial fever				1					
5	Diarrhœa, including cholera morbus	17			9			31		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results	9			2			7		
9	Syphilis and results	5			1					
10	Other venereal diseases				1			3		
11	Vaccina							1		
12	Other enthetic diseases				1			1		
13	Alcoholism	12			12			16		
14	Other dietic diseases									
15	Rheumatism, including muscular	26		1	9			31		
16	Other constitutional diseases	4								
17	Developmental diseases						1			
18	Parasitic diseases									
19	Headache and neuralgia	22			2			4		
20	Other diseases of the nervous system	1						2		2
21	Diseases of the eye	6			2			3		
22	Diseases of the ear	1		1				1		
23	Catarrhs and common colds	3			6			1		
24	Bronchitis	12			4			38		
25	Pneumonia	4	1						1	
26	Pulmonary phthisis				1		1			
27	Pleuritis									
28	Other diseases of the respiratory system	3			1					
29	Diseases of the heart and valves									
30	Other diseases of the circulatory system				1		1			
31	Tonsillitis	11			6			11		
32	Dyspepsia, colic, and constipation	7			6			18		
33	Other diseases of the digestive system	10			5			7		1
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	5		1	2		1	3		
36	Diseases of the locomotor system (excluding muscular rheumatism)							5		3
37	Diseases of the integumentary system	19			12			23		
38	All other diseases	2			2			3		
39	Heat stroke	1						4		
40	Frost-bite and general freezing	2			2			6		
41	Contusions and sprains	42			15			40		
42	Dislocations							3		
43	Fractures (not gunshot)	2		2				1		
44	Incised, lacerated, contused, and punctured wounds	15			8			16		
45	Shot wounds	1								
46	All other injuries	8		2	3	1		7		
	Total for disease	189	1	3	86		4	228	1	6
	Total for injury	71		4	28	1		77		
	Total for all causes	260	1	7	114	1	4	305	1	6

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Bennett, Dak.			Fort Sully, Dak.			Fort Randall, Dak.			In the field, Northern Group, Prairies.		
	46.			166.			169.			2.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2	2											
3				2			4					
4												
5	2			25			13					
6				2								
7												
8				3			4		1			
9				2			1					
10							3					
11												
12							1					
13	1			2			12					
14												
15	3			2			17					
16							1					
17												
18				1			1					
19				13			16					
20	1			2			1					
21				1			5					
22				1			3					
23	4						2					
24	4			28			11					
25												
26				1		1			1			
27				1								
28				1			1					
29				1								
30				1								
31	4			6			15					
32	3			8			9					
33	3			22			9					
34												
35	1			5			4					
36	1			1								
37	2			19			10					
38				13			9					
39												
40				1								
41	5			27			28			1		
42												
43				1			2					
44	3			10			17					
45												
46				9			14					
	31			163		1	152		2			
	8			48			61			1		
	39			211		1	213		2	1		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	*Middle Group.*			Rock Island Arsenal, Ill.			Fort Omaha, Nebr.		
	Mean strength (reported by medical officers)	2,049.			58.			411.		
	Causes of admission to sick report.	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	13	1							
2	Other specific febrile and acute infectious diseases, including erysipelas	38		1				1		1
3	Malarial fevers and resulting conditions	417	1		10			88		
4	Typho-malarial fever	6	3					1	1	
5	Diarrhœa, including cholera morbus	398	1		18			106		
6	Dysentery	31								
7	Other miasmatic diseases									
8	Gonorrhœa and results	47			1			9		
9	Syphilis and results	79		10				40		6
10	Other venereal diseases	39						14		
11	Vaccina	29								
12	Other enthetic diseases	3								
13	Alcoholism	79			1			41		
14	Other dietic diseases									
15	Rheumatism, including muscular	181		6	2			48		2
16	Other constitutional diseases	5			1			2		
17	Developmental diseases			2						
18	Parasitic diseases	4						1		
19	Headache and neuralgia	131			6			38		
20	Other diseases of the nervous system	22		9				3		1
21	Diseases of the eye	35						16		
22	Diseases of the ear	19		2				9		
23	Catarrhs and commoncolds	72			8			43		
24	Bronchitis	141			6			51		
25	Pneumonia	9	2					1		
26	Pulmonary phthisis	2	1	1				1	1	
27	Pleuritis	4								
28	Other diseases of the respiratory system	43		2	2			5		
29	Diseases of the heart and valves	13		4				2		2
30	Other diseases of the circulatory system	4			1					
31	Tonsillitis	43						10		
32	Dyspepsia, colic, and constipation	116			10			26		
33	Other diseases of the digestive system	153		3	10			41		1
34	Diseases of the kidneys	4		2						
35	Other diseases of the genito-urinary system (non-venereal)	31		2	4			3		
36	Diseases of the locomotor system (excluding muscular rheumatism)	9		4	3			2		2
37	Diseases of the integumentary system	178			3			48		
38	All other diseases	54		2	2			7		
39	Heat stroke	6								
40	Frost-bite and general freezing	15						10		
41	Contusions and sprains	252			3			64		
42	Dislocations	6								
43	Fractures (not gunshot)	11		1				4		
44	Incised, lacerated, contused, and punctured wounds	72			2			13		
45	Shot wounds	11	2	1						
46	All other injuries	84	3	2	3			16		
	Total for disease	2,452	9	50	88			657	2	15
	Total for injury	457	5	4	8			107		
	Total for all causes	2,909	14	54	96			764	2	15

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Omaha, Nebr., Headquarters.			Fort Leavenworth, Kans.			Fort Leavenworth Prison, Kans.			Leavenworth City, Kans.		
	31.			600.			109.			7.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1				6								
2				26								
3	1			58			1			1		
4												
5	1			69			9					
6				1			1					
7												
8				18			2					
9				26		2	1					
10				13			2					
11				14								
12	1											
13	1			13			5					
14												
15				30		1	11			1		
16				1								
17						2						
18				1								
19				22			7			1		
20				6		1	3					
21				8								
22				5		2						
23				7								
24				39			4					
25				5	1							
26												
27				2								
28				11		1						
29				1			1					
30				2								
31	1			4			1					
32				19			19					
33	1			54		2	7					
34				2			1					
35				12			1					
36				2		1						
37				55			1					
38				28								
39				3								
40				2								
41				69			1					
42				2								
43				4								
44	1			25								
45				5	2							
46				16		1	2					
	6			560	1	12	77			3		
	1			126	2	1	3					
	7			686	3	13	80			3		

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Leavenworth, Kans., Headquarters.			Fort Riley, Kans.			Fort Gibson, Ind. T.		
	Mean strength (reported by medical officers)	24.			321.			87.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever				2	1		2		
2	Other specific febrile and acute infectious diseases, including erysipelas				11					
3	Malarial fevers and resulting conditions				43			30		
4	Typho-malarial fever				1			1		
5	Diarrhœa, including cholera morbus	1			89			15		
6	Dysentery				21			3		
7	Other miasmatic diseases									
8	Gonorrhœa and results				8			5		
9	Syphilis and results				3			3		
10	Other venereal diseases				2			5		
11	Vaccina				12			1		
12	Other enthetic diseases	1						1		
13	Alcoholism				13			2		
14	Other dietic diseases									
15	Rheumatism, including muscular				18		2	10		
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia	1			21			9		
20	Other diseases of the nervous system				4		4	5		3
21	Diseases of the eye				7			1		
22	Diseases of the ear				3					
23	Catarrhs and common colds				2			9		
24	Bronchitis				24			3		
25	Pneumonia				2					
26	Pulmonary phthisis									
27	Pleuritis				1					
28	Other diseases of the respiratory system			1	1					
29	Diseases of the heart and valves				2					
30	Other diseases of the circulatory system							1		
31	Tonsillitis				22					
32	Dyspepsia, colic, and constipation				17			6		
33	Other diseases of the digestive system				15			4		
34	Diseases of the kidneys				1		1			
35	Other diseases of the genito-urinary system (non-venereal)				4			2		
36	Diseases of the locomotor system (excluding muscular rheumatism)				2		1			
37	Diseases of the integumentary system				22			8		
38	All other diseases				4			2		1
39	Heat stroke									
40	Frost-bite and general freezing				2					
41	Contusions and sprains				41			13		
42	Dislocations				2					
43	Fractures (not gunshot)				1		1	1		
44	Incised, lacerated, contused, and punctured wounds				9			6		
45	Shot wounds							1		
46	All other injuries				7	1	1	5	2	
	Total for disease	3		1	377	1	8	128		4
	Total for injury				62	1	2	26	2	
	Total for all causes	3		1	439	2	10	154	2	4

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Sill, Ind. T.			In the field, Middle Group, Prairies.			*Southern Group.*			Fort Concho, Tex.		
	282.			119.			647.			172.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.
1	2			1			3					
2							8			2		
3	152	1		33			168		1	26		
4	3	2										
5	38			52	1		90			25		
6	3			2			2			1		
7												
8	3			1			38		1	8		
9	6		2				19		2	1		1
10	3						11			2		
11	2											
12							4			3		
13				3			30			6		
14												
15	46		1	15			45			23		
16	1						5		3			
17									1			
18	2						4			2		
19	18			8			25			5		
20	1						10		2	1		
21	1			2			19		2	7		1
22				2			8			2		
23	2			1			37			5		
24	13			1			15			11		
25	1	1										
26	1		1				2					
27	1						5			5		
28	24						5			2		
29	7		2				13	1	4	6		1
30							1		2			
31	4			1			4					
32	11			8			19			10		
33	19			2			48			18		
34			1									
35	5		2				15			7		
36							1			1		
37	24			17			117		1	31		
38	10		1	1			8			4		
39				3			7					
40	1											
41	47			14			112			56		
42	1			1								
43				1			3			1		
44	9			7			63			40		
45	5		1				4	1		1		
46	26			9			41		2	16		
	403	4	10	150	1		779	1	19	214		3
	89		1	35			230	1	2	114		
	492	4	11	185	1		1,009	2	21	328		3

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	San Antonio Post, Tex.			San Antonio, Tex., Headquarters.			Camp Langtry, Tex.		
	Mean strength (reported by medical officers)	375.			30.			20.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	3								
2	Other specific febrile and acute infectious diseases, including erysipelas	6								
3	Malarial fevers and resulting conditions	117		1	2			2		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	56						3		
6	Dysentery				1					
7	Other miasmatic diseases									
8	Gonorrhœa and results	30		1						
9	Syphilis and results	18		1						
10	Other venereal diseases	9								
11	Vaccina									
12	Other enthetic diseases	1								
13	Alcoholism	24								
14	Other dietic diseases									
15	Rheumatism, including muscular	19			1			1		
16	Other constitutional diseases	5		3						
17	Developmental diseases			1						
18	Parasitic diseases	2								
19	Headache and neuralgia	16			1			1		
20	Other diseases of the nervous system	6		2	2					
21	Diseases of the eye	10		1	2					
22	Diseases of the ear	5			1					
23	Catarrhs and common colds	32								
24	Bronchitis	4								
25	Pneumonia									
26	Pulmonary phthisis	1			1					
27	Pleuritis									
28	Other diseases of the respiratory system	3								
29	Diseases of the heart and valves	7	1	3						
30	Other diseases of the circulatory system	1		2						
31	Tonsillitis	3			1					
32	Dyspepsia, colic, and constipation	6			1					
33	Other diseases of the digestive system	28			1					
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	3			5					
36	Diseases of the locomotor system (excluding muscular rheumatism)									
37	Diseases of the integumentary system	71		1	3			5		
38	All other diseases	2			1					
39	Heat stroke	1								
40	Frost-bite and general freezing									
41	Contusions and sprains	51						2		
42	Dislocations									
43	Fractures (not gunshot)	2								
44	Incised, lacerated, contused, and punctured wounds	22						1		
45	Shot wounds	3	1							
46	All other injuries	22		2						
	Total for disease	488	1	16	23			12		
	Total for injury	101	1	2				3		
	Total for all causes	589	2	18	23			15		

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	In the field, Southern Group, Prairies.			**Great Plains.**			*Northern Group.*			Fort Assiniboine, Mont.		
	50.			6,707.			2,261.			396.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1				68	6		2	1		2	1	
2				87	1		16	1		4		
3	21			404	2		67			14		
4				1								
5	6			731	1	5	221		2	42		
6				72			7			1		
7				2			1					
8				194		2	66		2	14		
9				125		14	30		4	6		2
10				131		1	54			10		
11				44			5			3		
12				21			7			1		
13				319	2	1	97			23		
14				10			2			1		
15	1			621		22	263		12	29		
16				28	2	6	5	1	2	1		1
17				3		4	1		2			
18				26			1					
19	2			414		2	173		1	27		
20	1			71	2	17	24		2	6		
21				180		7	65		2	23		
22				49		4	25		2	4		
23				204			132			7		
24				179	1	8	193	1	4	19		
25				15	5		5	2		1		
26				24	3	15	12	1	8	1		1
27				20		1	7					
28				29		3	10		1			
29				45	3	10	26		2	3		
30				9		1						
31				222			92			7		
32	2			404			145			20		
33	1			430	5	9	166		4	34		
34				18		2	3		1	1		1
35				88		9	34		5	6		
36				40		12	12		4	3		1
37	7			544		1	196			27		
38	1			158			58			30		
39	6			9			1			1		
40				51		1	26			3		
41	3			1,002		6	416		4	40		
42				21		1	6			1		
43				60		4	21		2	2		1
44				346	1		113			19		
45				52	10	4	17	4	3	1		
46	3			241	6	5	80		2	10		
	42			6,330	33	156	2,223	7	60	370	1	6
	12			1,782	17	21	680	4	11	77		1
	54			8,112	50	177	2,903	11	71	447	1	7

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Camp Poplar River, Mont.			Fort Shaw, Mont.			Fort Maginnis, Mont.		
	Mean strength (reported by medical officers)	97.			201.			111.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas				3			2	1	
3	Malarial fevers and resulting conditions	1						4		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	17			16			5		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results	11			1					
9	Syphilis and results							1		
10	Other venereal diseases	2						2		
11	Vaccina				1					
12	Other euthetic diseases				1					
13	Alcoholism	1			8			1		
14	Other dietic diseases				1					
15	Rheumatism, including muscular	11			15			7		
16	Other constitutional diseases				1	1				
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia	8			8			7		
20	Other diseases of the nervous system	1			3					
21	Diseases of the eye	1			2			2		
22	Diseases of the ear	3						3		
23	Catarrhs and common colds	4			2			1		
24	Bronchitis	12			5			12		
25	Pneumonia									
26	Pulmonary phthisis									
27	Pleuritis	3								
28	Other diseases of the respiratory system	1			2		1			
29	Diseases of the heart and valves	6		1	4					
30	Other diseases of the circulatory system									
31	Tonsillitis	7			5					
32	Dyspepsia, colic, and constipation	5			15			3		
33	Other diseases of the digestive system	14			14			2		
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	10		1				5		
36	Diseases of the locomotor system (excluding muscular rheumatism)				1					1
37	Diseases of the integumentary system	18			3			10		
38	All other diseases	2			1			4		
39	Heat stroke									
40	Frost-bite and general freezing	3			4			3		
41	Contusions and sprains	19			28		1	22		1
42	Dislocations									
43	Fractures (not gunshot)	2						3		
44	Incised, lacerated, contused, and punctured wounds	11			7			7		
45	Shot wounds	1			1	1		1	1	
46	All other injuries	9		1	4			5		1
	Total for disease	138		2	112	1	1	71	1	1
	Total for injury	45		1	44	1	1	41	1	2
	Total for all causes	183		3	156	2	2	112	2	3

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Keogh, Mont.			Fort Custer, Mont.			Fort Meade, Dak.			Fort McKinney, Wyo.		
	364.			363.			462.			171.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1												
2	3			1			3					
3	2			13			25			5		
4												
5	22			20		2	72			24		
6										3		
7	1											
8	6			13		2	16			5		
9	4			10			6		2			
10	2			25			3			9		
11	1											
12	2			1								
13	29			5			25			5		
14												
15	45		1	40		7	94		3	14		1
16	1						2					1
17	1		1			1						
18	1											
19	31		1	7			47			37		
20	5		1	4		1	4			1		
21	10		1	5			18		1	4		
22	6		1	4		1	4			1		
23	1			24			86			5		
24	32		2	3			86	1	1	24		1
25				1	1		2			1	1	
26	1	1					9		7	1		
27				2						2		
28	1			2						2		
29	4					1	8					
30												
31	20						31			17		
32	14			24			50			12		
33	18		1	13			53		3	17		
34	1						1					
35	4		1	3		1	4		1	2		1
36	1			1			3		1	2		1
37	35			36			40			24		
38	1			7			3			10		
39												
40	1			1			10			1		
41	88			40			130		1	44		1
42				2			2					
43	4			5		1	1			3		
44	23			15			23			4		
45	2			2			8		3	1	1	
46	8			9			25			6		
	305	1	10	264	1	16	695	1	19	227	1	5
	126			74		1	199		4	59	1	1
	431	1	10	338	1	17	894	1	23	286	2	6

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

Names of regions and military stations	In the field, Northern Group, Great Plains.			*Middle Group.*			Fort Niobrara, Nebr.		
Mean strength (reported by medical officers)	96.			2,707.			428.		
Causes of admission to sick report.	Admitted.	Died.	Discharged.	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.
1 Enteric fever				57	5				
2 Other specific febrile and acute infectious diseases, including erysipelas				57			14		
3 Malarial fevers and resulting conditions	3			181			11		
4 Typho-malarial fever				1					
5 Diarrhœa, including cholera morbus	3			311	1	1	37		
6 Dysentery	3			30					
7 Other miasmatic diseases									
8 Gonorrhœa and results				54			6		
9 Syphilis and results	3			31		5	2		
10 Other venereal diseases	1			25			2		
11 Vaccina				23			1		
12 Other enthetic diseases	2			7					
13 Alcoholism				103	1		7		
14 Other dietic diseases				1					
15 Rheumatism, including muscular	8			218		8	36		3
16 Other constitutional diseases				14	1	4	8		3
17 Developmental diseases				1		1	1		1
18 Parasitic diseases				8					
19 Headache and neuralgia	1			180		1	15		
20 Other diseases of the nervous system				31		10	2		1
21 Diseases of the eye				63		3	4		1
22 Diseases of the ear				10			1		
23 Catarrhs and common colds	2			53			12		
24 Bronchitis				233		3	12		3
25 Pneumonia				7	3				
26 Pulmonary phthisis				7		4	1		
27 Pleuritis				8			1		
28 Other diseases of the respiratory system	2			13		2	4		1
29 Diseases of the heart and valves	1			11	1	5	6		2
30 Other diseases of the circulatory system				7			4		
31 Tonsillitis	5			109			11		
32 Dyspepsia, colic, and constipation	2			123			10		
33 Other diseases of the digestive system	1			152	2	4	4		2
34 Diseases of the kidneys				4		1			
35 Other diseases of the genito-urinary system (non-venereal)				30		3	5		1
36 Diseases of the locomotor system (excluding muscular rheumatism)	1			13		5	4		2
37 Diseases of the integumentary system	3			190		1	26		
38 All other diseases				35			2		
39 Heat stroke									
40 Frost-bite and general freezing				21		1	7		
41 Contusions and sprains	5			365		2	48		
42 Dislocations	1			8		1			
43 Fractures (not gunshot)	1			17		2	1		1
44 Incised, lacerated, contused, and punctured wounds	4			147			31		
45 Shot wounds		1		26	3	1	5		
46 All other injuries	4			99	2	1	12		
Total for disease	41			2,401	14	61	249		20
Total for injury	15	1		683	5	8	104		1
Total for all causes	56	1		3,084	19	69	353		21

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Robinson, Nebr.			Fort Laramie, Wyo.			Fort D. A. Russell, Wyo.			Fort Sidney, Nebr.		
	325.			187.			418.			194.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	7	2		30			4	1		4		
2	27			1			5			3		
3	10			3			33			12		
4												
5	35			7			46			80		
6	1									2		
7												
8	11						6			3		
9	7		4				9			1		
10	7						4			5		
11										10		
12							2			1		
13	4			18	1		16			41		
14												
15	26		2	10			46		1	12		
16												
17												
18							2					
19	25		1	4			30			26		
20	9		4	1			2			4		
21	9			3			12			3		
22	2			2			2					
23	1						10			2		
24	25			14			17			57		
25	2	1		1			1	1		1		
26							2		2			
27	3											
28				1		1	1			1		
29				1			2	1	1			
30	2											
31	10			4			37					
32	9			5			9			23		
33	27			18		1	18	1		7		
34	1									1		1
35	1						2		1	3		
36	1			1		1	2		1			
37	15		1	8			12			12		
38	6			4			1			3		
39												
40	8			2		1	2					
41	86		1	14			33		1	28		
42				1			2		1			
43	2		1	1			1			1		
44	17			6			18			10		
45	5	1			1		5			1		
46	16			5		1	6			6		
	283	3	12	136	1	3	333	4	6	317		1
	134	1	2	29	1	2	67		2	46		
	417	4	14	165	2	5	400	4	8	363		1

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Hays, Kans.			Fort Lyon, Colo.			Fort Supply, Ind. T.		
	Mean strength (reported by medical officers)	147.			218.			265.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	6	1		6	1				
2	Other specific febrile and acute infectious diseases, including erysipelas				2					
3	Malarial fevers and resulting conditions	5			15			18		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	5		1	26			29		
6	Dysentery				1			11		
7	Other miasmatic diseases									
8	Gonorrhœa and results	1			4			6		
9	Syphilis and results	3			3			2		1
10	Other venereal diseases				2			1		
11	Vaccina				11					
12	Other enthetic diseases	1						3		
13	Alcoholism	1			10			1		
14	Other dietic diseases									
15	Rheumatism, including muscular	12		1	18			14		
16	Other constitutional diseases	1		1				1		
17	Developmental diseases									
18	Parasitic diseases	1								
19	Headache and neuralgia	4			19			24		
20	Other diseases of the nervous system	1		1	3			6		1
21	Diseases of the eye	4			8			9		
22	Diseases of the ear				2			1		
23	Catarrhs and common colds	1			13			2		
24	Bronchitis	23			9			7		
25	Pneumonia	1	1		1					
26	Pulmonary phthisis	3		2						
27	Pleuritis	1						3		
28	Other diseases of the respiratory system				1					
29	Diseases of the heart and valves				1		1			
30	Other diseases of the circulatory system							1		
31	Tonsillitis	8			19			4		
32	Dyspepsia, colic, and constipation	5			16			15		
33	Other diseases of the digestive system	14		1	28			6		
34	Diseases of the kidneys				1					
35	Other diseases of the genito-urinary system (non-venereal)	1			4			5		
36	Diseases of the locomotor system (excluding muscular rheumatism)				1					
37	Diseases of the integumentary system	7			27			25		
38	All other diseases	1			3			5		
39	Heat stroke									
40	Frost-bite and general freezing				1					
41	Contusions and sprains	4			37			31		
42	Dislocations				1			1		
43	Fractures (not gunshot)				2			5		
44	Incised, lacerated, contused, and punctured wounds	2			5			23		
45	Shot wounds	2			3			1		
46	All other injuries	4	1		9			16	1	
	Total for disease	110	2	7	254	1	1	201		2
	Total for injury	12	1		58			77	1	
	Total for all causes	122	3	7	312	1	1	278	1	2

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Reno, Ind. T.			Fort Elliott, Tex.			In the field, Middle Group, Great Plains.			*Southern Group.*		
	301.			191.			33.			1,739.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	*Admitted.*	*Died.*	*Discharged.*
1										9		
2	2			3						14		
3	67			6			1			156	2	
4	1											
5	26			14			6	1		199		2
6	12			2			1			35		
7										1		
8	8			9						74		
9	2			2						64		7
10	3			1						52		1
11				1						16		
12										7		
13				5						119	1	1
14	1									7		
15	34		1	10						140		2
16	2			2	1					9		
17										1		1
18	2			3						17		
19	28			3			2			61		
20	2		2	1		1				16	2	5
21	9		2	2						52		2
22										14		2
23	9						3			19		
24	58			11						53		1
25										3		
26	1									5	2	3
27										5		1
28	2						3			6		
29	1		1							8	2	3
30										2		1
31	11			5						21		
32	22			9						136		
33	21			9	1					112	3	1
34	1									11		
35	3			6		1				24		1
36	2		1							15		3
37	41			17						158		
38	6			4						65		
39										8		
40	1									4		
41	63			17			4			221		
42	2			1						7		
43	1			3						22		
44	21			13			1			86	1	
45	1			3	1				1	9	3	
46	18			7						62	4	2
	377		7	125	2	2	16	1		1,706	12	35
	107			44	1		5		1	419	8	2
	484		7	169	3	2	21	1	1	2,125	20	37

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Stanton, N. Mex.			Fort Bliss, Tex.			Fort Hancock, Tex.		
	Mean strength (reported by medical officers)	204.			115.			63.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	1			5					
2	Other specific febrile and acute infectious diseases, including erysipelas				1			3		
3	Malarial fevers and resulting conditions	1			20			5		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	3			22			8		
6	Dysentery				4			1		
7	Other miasmatic diseases									
8	Gonorrhœa and results	9						2		
9	Syphilis and results	14		2	9			3		
10	Other venereal diseases	1			4					
11	Vaccina				1					
12	Other enthetic diseases									
13	Alcoholism	3	1		3			2		
14	Other dietic diseases	1								
15	Rheumatism, including muscular	3			8			4		
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases	1						2		
19	Headache and neuralgia	1			8			7		
20	Other diseases of the nervous system		1	1	1			1		
21	Diseases of the eye	2						1		
22	Diseases of the ear				4					1
23	Catarrhs and commoncolds									
24	Bronchitis	4			6		1			
25	Pneumonia									
26	Pulmonary phthisis				1		1		1	
27	Pleuritis									
28	Other diseases of the respiratory system				2					
29	Diseases of the heart and valves			1						
30	Other diseases of the circulatory system									
31	Tonsillitis	3			2			1		
32	Dyspepsia, colic, and constipation	8			2			8		
33	Other diseases of the digestive system	7			16	1		4		
34	Diseases of the kidneys				2					
35	Other diseases of the genito-urinary system (non-venereal)									
36	Diseases of the locomotor system (excluding muscular rheumatism)									
37	Diseases of the integumentary system	9			10			7		
38	All other diseases	4			5					
39	Heat stroke	1			1					
40	Frost-bite and general freezing	2			1					
41	Contusions and sprains	22			22			14		
42	Dislocations									
43	Fractures (not gunshot)									
44	Incised, lacerated, contused, and punctured wounds	10			4			2		
45	Shot wounds	1			1					
46	All other injuries	2			1	1		2	1	
	Total for disease	75	2	4	136	1	2	59	1	1
	Total for injury	38			30	1		18	1	
	Total for all causes	113	2	4	166	2	2	77	2	1

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Davis, Tex.			Camp Pena Colorado, Tex.			Camp Del Rio, Tex.			Fort Clark, Tex.		
	279.			59.			59.			600.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	3											
2	1			1			3			2		
3	12			4			5			40		
4												
5	39		1	11			6			72		
6	9									19		
7												
8	11			1			1			23		
9	10			3		2				15		1
10	18		1				1			16		
11	5									8		
12				1			1			4		
13	8			1			9			71		1
14										6		
15	10			4			8			73		
16				1						7		
17										1		1
18	2									7		
19	7			3			3			17		
20	7		1							4	1	3
21	21			2						16		2
22							1			7		
23	1			3			2			12		
24	9			2			2			19		
25										1		
26	1		1							2		1
27	2									2		1
28	1						1			2		
29	1	1		1						2		2
30							1		1			
31	3			1			3			8		
32	19			1			6			76		
33	21	1		4			2			34	1	1
34	1			1						5		
35	4						1			12		1
36				1						7		2
37	21			1			5			69		
38	1			1						35		
39										5		
40	1											
41	24			14			11			70		
42				3						4		
43	5			1			4			11		
44	13			2			9			28	1	
45	2						1	1		3	2	
46	9	1		1			2			25		1
	248	2	4	48		2	61		1	694	2	16
	54	1		21			27	1		146	3	1
	302	3	4	69		2	88	1	1	840	5	17

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort McIntosh, Tex.			Fort Ringgold, Tex.			Camp at Eagle Pass, Tex.		
	Mean strength (reported by medical officers)	151.			133.			56.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas	2			1					
3	Malarial fevers and resulting conditions	33	2		23			5		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	29			2		1	5		
6	Dysentery	2								
7	Other miasmatic diseases							1		
8	Gonorrhœa and results	14			10			1		
9	Syphilis and results	9			1					
10	Other venereal diseases	5			5			2		
11	Vaccina	2								
12	Other enthetic diseases				1					
13	Alcoholism	2			19			1		
14	Other dietic diseases									
15	Rheumatism, including muscular	20			8		2	2		
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases	4						1		
19	Headache and neuralgia	11			4					
20	Other diseases of the nervous system	1			2					
21	Diseases of the eye	3			6			1		
22	Diseases of the ear				2		1			
23	Catarrhs and common colds	1								
24	Bronchitis	8								
25	Pneumonia	1						1		
26	Pulmonary phthisis	1	1							
27	Pleuritis							1		
28	Other diseases of the respiratory system									
29	Diseases of the heart and valves	4				1				
30	Other diseases of the circulatory system				1					
31	Tonsillitis									
32	Dyspepsia, colic, and constipation	10			3			2		
33	Other diseases of the digestive system	9			12			3		
34	Diseases of the kidneys				2					
35	Other diseases of the genito-urinary system (non-venereal)	7								
36	Diseases of the locomotor system (excluding muscular rheumatism)	3			3		1	1		
37	Diseases of the integumentary system	19			6			4		
38	All other diseases	16						3		
39	Heat stroke	1								
40	Frost-bite and general freezing									
41	Contusions and sprains	24			13			7		
42	Dislocations									
43	Fractures (not gunshot)				1					
44	Incised, lacerated, contused, and punctured wounds	7			7			4		
45	Shot wounds				1					
46	All other injuries	11		1	5	1		1		
	Total for disease	216	3		111	1	5	34		
	Total for injury	43		1	27	1		12		
	Total for all causes	259	3	1	138	2	5	46		

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	In the field, Southern Group, Great Plains.			**Cordilleras.**			*Northern Group.*			Fort Spokane, Wash.		
	20.			5,362.			1,244.			247.		
	Admitted.	Died.	Discharged.	**Admitted.**	**Died.**	**Discharged.**	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.
1				**42**	**2**		4					
2				**81**	**1**		6					
3	8			**385**	**1**	**1**	67	1		12		
4				**5**								
5	2			**627**	**1**	**2**	153			16		
6				**50**	**3**	**1**	5		1			
7												
8	2			**126**			26			4		
9				**96**		**21**	14		3	3		1
10				**103**			23			1		
11				**41**			9					
12				**16**								
13				**239**	**1**	**2**	59			5		
14				**4**		**1**	3		1			
15				**482**	**1**	**18**	138		6	34		1
16	1			**17**	**1**	**2**	4	1				
17				**2**		**1**						
18				**5**								
19				**340**		**4**	66		1	9		
20				**81**	**4**	**20**	9	1	2	1	1	1
21				**132**		**12**	17		2	3		
22				**23**		**3**	8		1	2		1
23				**124**			37			1		
24	3			**309**		**4**	114			43		
25				**20**	**7**		2					
26				**24**	**2**	**14**	7		6	2		1
27				**11**		**1**	2					
28				**20**	**1**		5					
29				**34**	**6**	**6**	7	2	3	3		
30				**7**	**1**	**2**	4		1			
31				**225**		**1**	59			13		
32	1			**280**		**1**	53			9		
33				**299**	**3**	**10**	57		4	8		1
34				**13**	**1**	**2**	4					
35				**83**		**9**	21		4	5		1
36				**40**		**12**	8		3	2		1
37	7			**302**		**1**	79			14		
38				**171**	**1**	**4**	24			2		
39				**4**			1					
40				**13**	**1**		5			2		
41				**787**		**1**	208			36		
42				**10**			1			1		
43				**38**	**1**	**1**	12			4		
44				**265**		**2**	69			7		
45				**21**	**9**	**6**	6	5	1		1	
46	3			**208**	**6**	**9**	50	2	3	6	1	
	24			**4,859**	**37**	**155**	1,094	5	38	192	1	8
	3			**1,346**	**17**	**19**	352	7	4	56	2	
	27			**6,205**	**54**	**174**	1,446	12	42	248	3	8

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Sherman, Idaho.			Fort Missoula, Mont.			Fort Walla Walla, Wash.		
	Mean strength (reported by medical officers)	252.			166.			287.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas							2		
3	Malarial fevers and resulting conditions	10						37	1	
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	13			47			59		
6	Dysentery	1			2					
7	Other miasmatic diseases									
8	Gonorrhœa and results	11			1			2		
9	Syphilis and results	1			2		1	4		
10	Other venereal diseases	6								
11	Vaccina									
12	Other enthetic diseases									
13	Alcoholism	11			26			7		
14	Other dietic diseases							2		1
15	Rheumatism, including muscular	25		4	36		1	20		
16	Other constitutional diseases							1		
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia	15			20		1	8		
20	Other diseases of the nervous system	2			2			1		
21	Diseases of the eye	1			4		1	4		1
22	Diseases of the ear	1						4		
23	Catarrhs and common colds	4			28					
24	Bronchitis	27			20			14		
25	Pneumonia									
26	Pulmonary phthisis	2		3				2		2
27	Pleuritis	1						1		
28	Other diseases of the respiratory system	1						3		
29	Diseases of the heart and valves	2	1	2	1		1		1	
30	Other diseases of the circulatory system				3					
31	Tonsillitis	7			22			7		
32	Dyspepsia, colic, and constipation	13			9			4		
33	Other diseases of the digestive system	13		2	4		1	14		
34	Diseases of the kidneys							1		
35	Other diseases of the genito-urinary system (non-venereal)	1			5		1	3		1
36	Diseases of the locomotor system (excluding muscular rheumatism)	2			1					1
37	Diseases of the integumentary system	18			10			24		
38	All other diseases	2						4		
39	Heat stroke									
40	Frost-bite and general freezing	1								
41	Contusions and sprains	35			41			50		
42	Dislocations									
43	Fractures (not gunshot)	2						2		
44	Incised, lacerated, contused, and punctured wounds	20			13			17		
45	Shot wounds		1			1		2	2	
46	All other injuries	12			5		1	16	1	2
	Total for disease	190	1	11	243		7	228	2	6
	Total for injury	70	1		59	1	1	87	3	2
	Total for all causes	260	2	11	302	1	8	315	5	8

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Helena, Mont.			Boise Barracks, Idaho.			Fort Washakie, Wyo.			Camp Sheridan, Wyo.		
	1.			98.			124.			52.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1							4					
2				3			1					
3				6			1			1		
4												
5				3			13			2		
6							2		1			
7												
8				3			4			1		
9				1			1			2		1
10							16					
11				2			7					
12												
13				9						1		
14										1		
15	1			9			9			4		
16							1	1		2		
17												
18												
19	1			3			4			6		
20	1						2		1			
21							5					
22										1		
23				4								
24				4			5			1		
25				1			1					
26				1								
27												
28							1					
29				1								
30				1		1						
31				6			4					
32				8			7			3		
33				8			6			4		
34				1			2					
35				1			5			1		1
36							2			1		1
37				5			6			2		
38				4			11			1		
39				1								
40							2					
41				24			13			9		
42												
43				3			1					
44				5			2			5		
45				3		1	1					
46				10			1					
	3			84		1	120	1	2	34		3
				46		1	20			14		
	3			130		2	140	1	2	48		3

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	In the field, Northern Group, Cordilleras.			*Middle Group.*			Fort Klamath, Oreg.		
	Mean strength (reported by medical officers)	17.			2,155.			47.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.
1	Enteric fever				19					
2	Other specific febrile and acute infectious diseases, including erysipelas				69	1				
3	Malarial fevers and resulting conditions				119			3		
4	Typho-malarial fever				1					
5	Diarrhœa, including cholera morbus				205		1	1		
6	Dysentery				8			4		
7	Other miasmatic diseases									
8	Gonorrhœa and results				20					
9	Syphilis and results				41		13			
10	Other venereal diseases				18					
11	Vaccina				4					
12	Other enthetic diseases				6					
13	Alcoholism				112	1		1		
14	Other dietic diseases									
15	Rheumatism, including muscular				172	1	9	3		1
16	Other constitutional diseases				7		1			
17	Developmental diseases				1		1			
18	Parasitic diseases				2					
19	Headache and neuralgia				170		1	2		1
20	Other diseases of the nervous system				36	2	10	2		
21	Diseases of the eye				71		6	2		1
22	Diseases of the ear				6		1	1		
23	Catarrhs and common colds				51					
24	Bronchitis				99		4	2		
25	Pneumonia				11	3				
26	Pulmonary phthisis				7	1	4			
27	Pleuritis				4		1			
28	Other diseases of the respiratory system				6					
29	Diseases of the heart and valves				14	2	1			
30	Other diseases of the circulatory system				2	1				
31	Tonsillitis				110		1			
32	Dyspepsia, colic, and constipation				96		1	2		
33	Other diseases of the digestive system				121	2	2	3		
34	Diseases of the kidneys				1					
35	Other diseases of the genito-urinary system (non-venereal)				27		3			
36	Diseases of the locomotor system (excluding muscular rheumatism)				12		6	1		2
37	Diseases of the integumentary system				118					
38	All other diseases				109	1	2			
39	Heat stroke				1					
40	Frost-bite and general freezing				8	1				
41	Contusions and sprains				290		1	1		
42	Dislocations				5					
43	Fractures (not gunshot)				16					
44	Incised, lacerated, contused, and punctured wounds				96		2			
45	Shot wounds				9	1	2			
46	All other injuries				75	1	1	2		
	Total for disease				1,884	15	68	27		5
	Total for injury				500	3	6	3		
	Total for all causes				2,384	18	74	30		5

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Bidwell, Cal.			Fort McDermit, Nev.			Fort Bridger, Wyo.			Fort Douglas, Utah.		
	117.			40.			168.			375.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1				1						6		
2	1									7	1	
3				2			16			2		
4												
5	4			2			7			58		
6												
7												
8										9		
9	1		1				3			8		3
10	2									4		
11	3											
12							1			2		
13	1						3			45		
14												
15	4						15			36		2
16	1									1		
17												
18										1		
19	3			1			17			45		
20	8						1		1	3		
21	5			1			1			21		2
22							2			3		
23							3					
24	6		1	1			6			13		1
25										2		
26	1		1				1		1	1	1	
27												
28							1			1		
29	1						4					
30				1								
31	5			2			14			26		
32	7			4			4			12		
33	7			6		1	5	1		19		
34												
35										8		
36	2						1		1	4		1
37	6			3			9			23		
38	7			2			1			60		1
39												
40												
41	18			2			18		1	58		
42										2		
43				1			1					
44	2			2			17		1	10		1
45												
46	3			1			6		1	18		
	75		3	26		1	115	1	3	420	2	12
	23			6			42		3	88		1
	98		3	32		1	157	1	6	508	2	13

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Du Chesne, Utah.			Fort Crawford, Colo.			Fort Lewis, Colo.		
	Mean strength (reported by medical officers)	223.			83.			295.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever							2		
2	Other specific febrile and acute infectious diseases, including erysipelas	3						1		
3	Malarial fevers and resulting conditions	12			6			9		
4	Typho-malarial fever							1		
5	Diarrhœa, including cholera morbus	25		1	4			5		
6	Dysentery	3								
7	Other miasmatic diseases									
8	Gonorrhœa and results	1			2			3		
9	Syphilis and results	8		6	2		1	4		
10	Other venereal diseases	1						3		
11	Vaccina									
12	Other enthetic diseases	1						1		
13	Alcoholism	7						9		
14	Other dietic diseases									
15	Rheumatism, including muscular	16			3		1	24		1
16	Other constitutional diseases	3		1				2		
17	Developmental diseases							1		1
18	Parasitic diseases									
19	Headache and neuralgia	5			4			8		
20	Other diseases of the nervous system	4		3				6		2
21	Diseases of the eye	4			2		1	7		
22	Diseases of the ear									
23	Catarrhs and common colds	9			1			4		
24	Bronchitis	10			4			17		1
25	Pneumonia	1						4	1	
26	Pulmonary phthisis	1		1						
27	Pleuritis							1		
28	Other diseases of the respiratory system				1			3		
29	Diseases of the heart and valves	1		1				4	2	
30	Other diseases of the circulatory system							1		
31	Tonsillitis	8			11			33		
32	Dyspepsia, colic, and constipation	3			5			16		
33	Other diseases of the digestive system	15			2			28	1	
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	4		1	1			1		1
36	Diseases of the locomotor system (excluding muscular rheumatism)	1						1		
37	Diseases of the integumentary system	17			6			21		
38	All other diseases	4			3			14		
39	Heat stroke	1								
40	Frost-bite and general freezing	4	1					1		
41	Contusions and sprains	27			5			40		
42	Dislocations							1		
43	Fractures (not gunshot)	1						3		
44	Incised, lacerated, contused, and punctured wounds	18			7			10		
45	Shot wounds	2	1		2		1	3		
46	All other injuries	4			5	1		8		
	Total for disease	167		14	57		3	234	4	6
	Total for injury	57	2		19	1	1	66		
	Total for all causes	224	2	14	76	1	4	300	4	6

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Union, N. Mex.			Fort Wingate, N. Mex.			Fort Marcy, N. Mex.			Camp Pilot Butte, Wyo.		
	275.			325.			80.			87.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1										9		
2	42						5			5		
3	2			62			3					
4												
5	18			52			3			14		
6							1					
7												
8	3			7			3					
9	5			7			2					
10	1			4			3					
11				1								
12	1											
13	26	1		14						6		
14												
15	14			29		2	6	1	1	16		
16												
17												
18				1								
19	18			51			11			3		
20	7	1	2	2		2	1	1		1		
21	4			16		2	6					
22												
23				33								
24	1			17		1	9			8		
25	2	1					1	1		1		
26				3		1						
27	1						1		1			
28												
29				3						1		
30											1	
31	3		1	4			3					
32	10			16			12			3		
33	2			22		1	6			4		
34				1								
35	6			5		1	2					
36				2		1			1			
37	12			14			1			4		
38	5	1		4		1	2			7		
39												
40										1		
41	29			70			10			8		
42	1						1					
43	5			3						1		
44	12			12			3			1		
45				1		1				1		
46	9			7			6			4		
	183	4	3	370		12	81	3	3	82	1	
	56			93		1	22			16		
	239	4	3	463		13	103	3	3	98	1	

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Camp Medicine Butte, Wyo.			Camp near Denver, Col.			In the field, Middle Group, Cordilleras.		
	Mean strength (reported by medical officers)	5.			14.			21.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever							1		
2	Other specific febrile and acute infectious diseases, including erysipelas				4			1		
3	Malarial fevers and resulting conditions							2		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus							12		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results				1					
9	Syphilis and results				1					
10	Other venereal diseases									
11	Vaccina									
12	Other enthetic diseases									
13	Alcoholism									
14	Other dietic diseases									
15	Rheumatism, including muscular	1			4			1		
16	Other constitutional diseases									
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia				1			1		
20	Other diseases of the nervous system	1								
21	Diseases of the eye							2		
22	Diseases of the ear									
23	Catarrhs and common colds				1					
24	Bronchitis				5					
25	Pneumonia									
26	Pulmonary phthisis									
27	Pleuritis							1		
28	Other diseases of the respiratory system									
29	Diseases of the heart and valves									
30	Other diseases of the circulatory system									
31	Tonsillitis				1					
32	Dyspepsia, colic, and constipation				1			1		
33	Other diseases of the digestive system	1			1					
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)									
36	Diseases of the locomotor system (excluding muscular rheumatism)									
37	Diseases of the integumentary system							2		
38	All other diseases									
39	Heat stroke									
40	Frost-bite and general freezing							2		
41	Contusions and sprains	1			2			1		
42	Dislocations									
43	Fractures (not gunshot)							1		
44	Incised, lacerated, contused, and punctured wounds									
45	Shot wounds									
46	All other injuries							2		
	Total for disease	3			20			24		
	Total for injury	1			2			6		
	Total for all causes	4			22			30		

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Southern Group.			Fort Mojave, Ariz.			Whipple Barracks, Ariz.			Fort Verde, Ariz.		
	1,963.			49.			179.			52.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	19	2										
2	6			1								
3	199		1	1			7			2		
4	4											
5	269	1	1	5			8			4		
6	37	3		1								
7												
8	71			2			4					
9	41		5	7		1				3		2
10	62											
11	28											
12	10											
13	68		2	6			3					
14	1											
15	172		3	7			8		2	14		
16	6		1									
17	1											
18	3											
19	104		2				1		1	2		
20	36	1	8	1			9		3	1		1
21	44		4				4			1		
22	9		1									
23	36			3			1					
24	96						10			7		
25	7	4										
26	10	1	4	1		1	2		1			
27	5											
28	9	1										
29	13	2	2				2		1			
30	1		1						1			
31	56			1			3			1		
32	131			1			4			5		
33	121	1	4				4		2	2		
34	8	1	2							1		
35	35		2	1			2			1		
36	20		3				1					1
37	105		1	2			5			2		
38	38		2	1			1			1		
39	2									1		
40												
41	289			3			14			11		
42	4											
43	10	1	1							1		
44	100			1			5			2		
45	6	3	3									
46	83	3	5	3			2			2		
	1,881	17	49	41		2	79		11	47		4
	494	7	9	7			21			17		
	2,375	24	58	48		2	100		11	64		4

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Apache, Ariz.			Fort McDowell, Ariz.			San Carlos, Ariz.		
	Mean strength (reported by medical officers)	190.			93.			109.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever							1		
2	Other specific febrile and acute infectious diseases, including erysipelas	2			1					
3	Malarial fevers and resulting conditions	3			3			6		
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	8			19		1	25		
6	Dysentery	3			5			10	1	
7	Other miasmatic diseases									
8	Gonorrhœa and results	3								
9	Syphilis and results				1			4		
10	Other venereal diseases	2						1		
11	Vaccina	1						1		
12	Other enthetic diseases				3					
13	Alcoholism	3			2					
14	Other dietic diseases									
15	Rheumatism, including muscular	22			12			7		
16	Other constitutional diseases				1			2		
17	Developmental diseases									
18	Parasitic diseases	1								
19	Headache and neuralgia	15			6			13		
20	Other diseases of the nervous system	1		1	5	1		2		
21	Diseases of the eye	6		1	2		1	1		
22	Diseases of the ear	2						1		
23	Catarrhs and commoncolds	24			1			3		
24	Bronchitis	4			6			14		
25	Pneumonia				1			2	1	
26	Pulmonary phthisis	1						1		
27	Pleuritis							2		
28	Other diseases of the respiratory system				1			2	1	
29	Diseases of the heart and valves				2					
30	Other diseases of the circulatory system									
31	Tonsillitis				3			3		
32	Dyspepsia, colic, and constipation	15			1			8		
33	Other diseases of the digestive system	14	1		10			4		
34	Diseases of the kidneys									
35	Other diseases of the genito-urinary system (non-venereal)	3			4			4		
36	Diseases of the locomotor system (excluding muscular rheumatism)	5			4					
37	Diseases of the integumentary system	10			8			4		
38	All other diseases	2			3			3		
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	17			13			5		
42	Dislocations									
43	Fractures (not gunshot)					1				
44	Incised, lacerated, contused, and punctured wounds	8			1			5		
45	Shot wounds		1					2	1	
46	All other injuries	9			5			9		
	Total for disease	150	1	2	101	1	2	124	3	
	Total for injury	34	1		19	1		21	1	
	Total for all causes	184	2	2	120	2	2	145	4	

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Fort Thomas, Ariz.			Fort Bayard, N. Mex.			Fort Selden, N. Mex.			Fort Grant, Ariz.		
	154.			301.			43.			189.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	10	1		2						1		
2	1			1								
3	30			25			9			48		1
4												
5	44			19			1			37		
6							1			7	1	
7												
8	1			4						21		
9	4			3	2					8		
10	2			2						26		
11	5			16			1			1		
12				1			1					
13	8		1	17	1		4					
14				1								
15	9			13			12			17		
16				1			1					
17												
18												
19	18			7			8			11		
20				3			2					
21	6			5	1					6		
22				2								
23							1					
24	13			3			9			14		
25	1	1								1	1	
26							3		2	1	1	
27	1											
28				3			2					
29					1		2					
30												
31				17			1			19		
32	51			8			3			3		
33	5			21		1	10			17		
34	3		1									
35	1			8						2		1
36				3		1	1			1		
37	5			9			3			6		
38	8			2			2					
39				1								
40												
41	25			43			4			60		
42				2						1		
43				1		1	1					
44	9			13			2			23		
45	1			2								1
46	6			6	1	2	1			8	1	
	226	2	2	194	1	6	77		2	247	3	2
	41			68	1	3	8			92	1	1
	267	2	2	262	2	9	85		2	339	4	3

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Bowie, Ariz.			Fort Lowell, Ariz.			Fort Huachuca, Ariz.		
	Mean strength (reported by medical officers)	150.			143.			253.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	3	1					1		
2	Other specific febrile and acute infectious diseases, including erysipelas									
3	Malarial fevers and resulting conditions	4			25			33		
4	Typho-malarial fever				3			1		
5	Diarrhœa, including cholera morbus	11			19			66		
6	Dysentery	1			6			3	1	
7	Other miasmatic diseases									
8	Gonorrhœa and results	4			19			13		
9	Syphilis and results				5			5		
10	Other venereal diseases	10			12			7		
11	Vaccina							3		
12	Other enthetic diseases	1			2			2		
13	Alcoholism	2			9			14		
14	Other dietic diseases									
15	Rheumatism, including muscular	7			17		1	24		
16	Other constitutional diseases						1	1		
17	Developmental diseases							1		
18	Parasitic diseases							2		
19	Headache and neuralgia	9		1	5			8		
20	Other diseases of the nervous system	4		1	6		1	2		1
21	Diseases of the eye	3			5		1	5		
22	Diseases of the ear	1						3		1
23	Catarrhs and common colds				1			2		
24	Bronchitis	5			10					
25	Pneumonia							2	1	
26	Pulmonary phthisis				1					
27	Pleuritis	1						1		
28	Other diseases of the respiratory system	1								
29	Diseases of the heart and valves	2			1	1		4		1
30	Other diseases of the circulatory system				1					
31	Tonsillitis				1			7		
32	Dyspepsia, colic, and constipation	10			20			2		
33	Other diseases of the digestive system	4			11			15		1
34	Diseases of the kidneys	1	1		3		1			
35	Other diseases of the genito-urinary system (non-venereal)				5		1	5		
36	Diseases of the locomotor system (excluding muscular rheumatism)	5		1				2		
37	Diseases of the integumentary system	9		1	15			27		
38	All other diseases	2			4			9		2
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	24			32			35		
42	Dislocations									
43	Fractures (not gunshot)				2			4		
44	Incised, lacerated, contused, and punctured wounds	13			5			12		
45	Shot wounds	1	1							2
46	All other injuries	7			7	1	1	18		2
	Total for disease	100	2	4	206	1	6	270	2	6
	Total for injury	45	1		46	1	1	69		4
	Total for all causes	145	3	4	252	2	7	339	2	10

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	In the field, Southern Group, Cordilleras.			**Pacific Coast.**			*Northern Group.*			Fort Townsend, Wash.		
	48.			**1,620.**			599.			53.		
	Admitted.	Died.	Discharged.	**Admitted.**	**Died.**	**Discharged.**	*Admitted.*	*Died.*	*Discharged.*	Admitted.	Died.	Discharged.
1	1			**6**								
2				**19**			15					
3	3			**86**			48			1		
4				**1**								
5	3	1		**80**			35			5		
6				**18**								
7												
8				**36**			19			2		
9	1			**35**		**8**	13		2			
10				**22**			5			1		
11				**14**			2			1		
12				**3**			1					
13				**83**			41			1		
14												
15	3			**117**		**7**	61		4	10		
16				**5**		**1**	1					
17				**1**		**4**						
18				**1**								
19	1			**70**			33					
20				**14**	**1**	**2**	7					
21				**24**		**3**	12		1	1		
22				**7**		**2**	4		1			
23				**12**			2					
24	1			**95**			43			5		
25				**3**								
26				**4**		**2**	2			1		
27				**3**			1					
28				**6**		**3**	3		2			
29				**12**	**1**	**5**	8	1	1			
30				**3**		**1**						
31				**35**			15			2		
32				**53**			28					
33	4			**85**		**5**	38		2	7		
34				**4**	**3**		1	1				
35	1			**19**			12			1		
36	1			**10**		**6**	4		2			
37				**90**			21			4		
38				**12**		**1**	3		1	2		
39				**3**								
40												
41	3			**177**			82			9		
42	1			**2**								
43	1			**12**		**1**	4		1			
44	1			**59**			22			3		
45				**3**	**2**			1				
46				**51**	**3**	**3**	21	1	1			
	19	1		**1,088**	**5**	**50**	478	2	16	44		1
	6			**307**	**5**	**4**	129	2	2	12		
	25	1		**1,395**	**10**	**54**	607	4	18	56		1

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Fort Canby, Wash.			Vancouver Barracks, Wash.			In the field, Northern Group, Pacific Coast.		
	Mean strength (reported by medical officers)	66.			470.			10.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever									
2	Other specific febrile and acute infectious diseases, including erysipelas				15					
3	Malarial fevers and resulting conditions				47					
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	2			28					
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results				17					
9	Syphilis and results	2		1	11		1			
10	Other venereal diseases	2			2					
11	Vaccina				1					
12	Other enthetic diseases				1					
13	Alcoholism	8			32					
14	Other dietic diseases									
15	Rheumatism, including muscular	11		1	40		2			
16	Other constitutional diseases				1					
17	Developmental diseases									
18	Parasitic diseases									
19	Headache and neuralgia	3			30					
20	Other diseases of the nervous system	1			6					
21	Diseases of the eye	1			10		1			
22	Diseases of the ear				4		1			
23	Catarrhs and common colds				2					
24	Bronchitis	2			36					
25	Pneumonia									
26	Pulmonary phthisis				1					
27	Pleuritis				1					
28	Other diseases of the respiratory system				3		2			
29	Diseases of the heart and valves	3			5	1	1			
30	Other diseases of the circulatory system									
31	Tonsillitis	4			9					
32	Dyspepsia, colic, and constipation	4			24					
33	Other diseases of the digestive system	2			29		2			
34	Diseases of the kidneys				1	1				
35	Other diseases of the genito-urinary system (non-venereal)	1			10					
36	Diseases of the locomotor system (excluding muscular rheumatism)	1			3		2			
37	Diseases of the integumentary system	2			15					
38	All other diseases				1		1			
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	6			67					
42	Dislocations									
43	Fractures (not gunshot)				4		1			
44	Incised, lacerated, contused, and punctured wounds	3			16					
45	Shot wounds					1				
46	All other injuries	6			15	1	1			
	Total for disease	49		2	385	2	13			
	Total for injury	15			102	2	2			
	Total for all causes	64		2	487	4	15			

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Southern Group.			Fort Gaston, Cal.			Fort Mason, Cal.			Alcatraz Island, Cal.		
	1,021.			36.			42.			91.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	6			1								
2	4						1					
3	38						1					
4	1											
5	45			4			3					
6	18									2		
7												
8	17			2			1					
9	22		6	2		1						
10	17			4			1			1		
11	12						1					
12	2						1					
13	42			7						3		
14												
15	56		3	5			2			1		
16	4		1									
17	1		4									
18	1											
19	37			2			4			3		
20	7	1	2					1				
21	12		2				2			1		
22	3		1	1								
23	10			3								
24	52			2						10		
25	3									1		
26	2		2				1		1			
27	2											
28	3		1									
29	4		4									1
30	3		1									
31	20									3		
32	25			2						3		
33	47		3	6			2			4		
34	3	2					1	1				
35	7			2						1		
36	6		4									
37	69			7			4			9		
38	9			2			1					
39	3											
40												
41	95			6			1			6		
42	2											
43	8			1			1					
44	37			3			3			3		
45	3	1										
46	30	2	2	2			1			2		
	610	3	34	52		1	26	2	1	42		1
	178	3	2	12			6			11		
	788	6	36	64		1	32	2	1	53		1

Table showing, for each region and each military station therein, admissions to sick report, deaths and discharges

	Names of regions and military stations	Angel Island, Cal.			Presidio of San Francisco, Cal.			Benicia Barracks, Cal.		
	Mean strength (reported by medical officers)	142.			404.			63.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	1								
2	Other specific febrile and acute infectious diseases, including erysipelas				2					
3	Malarial fevers and resulting conditions	5			20			4		
4	Typho-malarial fever							1		
5	Diarrhœa, including cholera morbus	3			7			3		
6	Dysentery									
7	Other miasmatic diseases									
8	Gonorrhœa and results	6			5					
9	Syphilis and results	3		1	13		1			
10	Other venereal diseases	3			4					
11	Vaccina	4			5					
12	Other enthetic diseases									
13	Alcoholism	5			17			2		
14	Other dietic diseases									
15	Rheumatism, including muscular	5			26		1	6		1
16	Other constitutional diseases				4		1			
17	Devolopmental diseases			2						
18	Parasitic diseases	1								
19	Headache and neuralgia	3			15			2		
20	Other diseases of the nervous system			1	3		1	1		
21	Diseases of the eye	3			6		2			
22	Diseases of the ear	1			1		1			
23	Catarrhs and common colds				6					
24	Bronchitis	12			3			3		
25	Pneumonia	1								
26	Pulmonary phthisis			1						
27	Pleuritis				1			1		
28	Other diseases of the respiratory system				2		1			
29	Diseases of the heart and valves			1	3		1			
30	Other diseases of the circulatory system	1								
31	Tonsillitis	6			8			1		
32	Dyspepsia, colic, and constipation	1			8			1		
33	Other diseases of the digestive system	7		1	16		2	3		
34	Diseases of the kidneys					1				
35	Other diseases of the genito-urinary system (non-venereal)				1			2		
36	Diseases of the locomotor system (excluding muscular rheumatism)	1			2		1			
37	Diseases of the integumentary system	16			19					
38	All other diseases				4			1		
39	Heat stroke							3		
40	Frost-bite and general freezing									
41	Contusions and sprains	11			45			4		
42	Dislocations							1		
43	Fractures (not gunshot)	1			3					
44	Incised, lacerated, contused, and punctured wounds	3			17			3		
45	Shot wounds				3	1				
46	All other injuries	5	1	1	14	1	1	1		
	Total for disease	88		7	201	1	12	31		1
	Total for injury	20	1	1	82	2	1	12		
	Total for all causes	108	1	8	283	3	13	43		1

the mean strength of command, and the causes and **Number** *of occurring during the year 1887.—Continued.*

	Benicia Arsenal, Cal.			San Francisco, Cal.			Los Angeles, Cal.			San Diego Barracks, Cal.		
	54.			43.			28.			51.		
	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1										3		
2												
3	1											
4												
5	5									5		
6	1											
7												
8										2		
9	1									1		1
10	1									2		
11										2		
12										1		
13	1									3		
14												
15	5									5		1
16												
17												1
18												
19	5									2		
20	1			1						1		
21												
22												
23										1		
24	6									14		
25												
26										1		
27												
28												
29												
30												
31										1		
32	1						1			6		
33	3									6		
34	1									1		
35												
36												
37	1									2		
38	1											
39												
40												
41	3			1			3			5		
42							1			1		
43												
44	2									2		
45												
46	2									1		
	34			1			1			59		3
	7			1			4			9		
	41			2			5			68		3

Table showing, for each region and each military station therein, the mean strength of command, and the causes and **Number** *of admissions to sick report, deaths and discharges occurring during the year 1887.—Concluded.*

	Names of regions and military stations	In the field, Southern Group, Pacific Coast.			Hot Springs, Ark.			At large (deaths and discharges).		
	Mean strength (reported by medical officers)	67.			21.			—.		
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.	Admitted.	Died.	Discharged.
1	Enteric fever	1								
2	Other specific febrile and acute infectious diseases, including erysipelas	1							1	
3	Malarial fevers and resulting conditions	7								
4	Typho-malarial fever									
5	Diarrhœa, including cholera morbus	15				1				
6	Dysentery	15					1			
7	Other miasmatic diseases									
8	Gonorrhœa and results	1			1					
9	Syphilis and results	2		2	1					
10	Other venereal diseases	1								
11	Vaccina									
12	Other enthetic diseases									
13	Alcoholism	4								
14	Other dietic diseases									
15	Rheumatism, including muscular	1			5		3			
16	Other constitutional diseases								1	
17	Developmental diseases	1		1						1
18	Parasitic diseases									
19	Headache and neuralgia	1			1		1			
20	Other diseases of the nervous system					1			5	35
21	Diseases of the eye									
22	Diseases of the ear									
23	Catarrhs and common colds									
24	Bronchitis	2								
25	Pneumonia	1							1	
26	Pulmonary phthisis								2	1
27	Pleuritis									
28	Other diseases of the respiratory system	1								
29	Diseases of the heart and valves	1		1						1
30	Other diseases of the circulatory system	2		1						
31	Tonsillitis	1			1					
32	Dyspepsia, colic, and constipation	2								
33	Other diseases of the digestive system				1				1	1
34	Diseases of the kidneys						2			
35	Other diseases of the genito-urinary system (non-venereal)	1								
36	Diseases of the locomotor system (excluding muscular rheumatism)	3		3						
37	Diseases of the integumentary system	11			1					
38	All other diseases				1					
39	Heat stroke									
40	Frost-bite and general freezing									
41	Contusions and sprains	10								
42	Dislocations									
43	Fractures (not gunshot)	1								
44	Incised, lacerated, contused, and punctured wounds	1								
45	Shot wounds									
46	All other injuries	2								
	Total for disease	75		8	12	2	7		11	39
	Total for injury	14								
	Total for all causes	89		8	12	2	7		11	39

Table showing for the whole Army the principal causes, and **Ratios** *per* 1,000 *of mean strength, of admissions to sick report, deaths, discharges and constant non-effectiveness for the year* 1887.

	Causes of admission to sick report.	The Whole Army. Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	7.30	.64	.....	.94
2	Other specific febrile and acute infectious diseases, including erysipelas	16.78	.15	.04	.63
3	Malarial fevers and resulting conditions	102.59	.34	.08	2.99
4	Typho-malarial fever	.63	.15	.....	.09
5	Diarrhœa, including cholera morbus	129.60	.15	.30	1.57
6	Dysentery	9.10	.15	.11	.49
7	Other miasmatic diseases	.13	.08	.....	.01
8	Gonorrhœa and results	32.51	.....	.27	1.81
9	Syphilis and results	22.98	.....	3.60	2.10
10	Other venereal diseases	18.88	.....	.08	1.20
11	Vaccina	22.61	.....	.....	.74
12	Other enthetic diseases	2.47	.....	.....	.07
13	Alcoholism	16.30	.15	.15	.48
14	Other dietic diseases	.76	.....	.04	.02
15	Rheumatism, including muscular	85.15	.04	2.85	4.09
16	Other constitutional diseases	3.57	.19	.53	.30
17	Developmental diseases	.50	.04	.83	.06
18	Parasitic diseases	3.27	.....	.....	.07
19	Headache and neuralgia	56.88	.....	.46	1.01
20	Other diseases of the nervous system	11.91	.64	3.76	1.06
21	Diseases of the eye	22.78	.....	1.14	1.08
22	Diseases of the ear	6.50	.....	.46	.28
23	Catarrhs and common colds	29.74	.....	.....	.41
24	Bronchitis	68.92	.04	.57	1.46
25	Pneumonia	4.15	.99	.....	.40
26	Pulmonary phthisis	3.40	.49	1.82	.70
27	Pleuritis	2.47	.....	.08	.14
28	Other diseases of the respiratory system	6.04	.08	.30	.31
29	Diseases of the heart and valves	6.21	.61	1.40	.56
30	Other diseases of the circulatory system	1.30	.04	.30	.20
31	Tonsillitis	36.03	.....	.04	.65
32	Dyspepsia, colic, and constipation	53.73	.....	.11	.75
33	Other diseases of the digestive system	61.11	.42	1.56	1.83
34	Diseases of the kidneys	2.18	.23	.34	.27
35	Other diseases of the genito-urinary system (non-venereal)	15.14	.....	1.25	1.11
36	Diseases of the locomotor system (excluding muscular rheumatism)	5.87	.....	1.59	.58
37	Diseases of the integumentary system	79.44	.....	.19	2.25
38	All other diseases	23.03	.04	.34	1.03
39	Heat stroke	1.89	.....	.....	.03
40	Frost-bite and general freezing	4.49	.08	.04	.23
41	Contusions and sprains	137.24	.....	.27	3.77
42	Dislocations	2.35	.....	.08	.23
43	Fractures (not gunshot)	6.67	.04	.42	1.12
44	Incised, contused, lacerated, and punctured wounds	49.28	.08	.11	1.59
45	Shot wounds	4.61	.99	.53	.66
46	All other injuries	38.38	1.29	1.06	1.05
	Total for disease	1,001.97	5.65	24.58	33.70
	Total for injury	244.91	2.47	2.50	8.68
	Total for all causes	1,246.88	8.12	27.08	42.38

Table showing for the white and colored troops separately the sick report, deaths, discharges and constant

	Causes of admission to sick report.	White Troops.			
		Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	7.50	.63	.....	.96
2	Other specific febrile and acute infectious diseases, including erysipelas	15.37	.17	.04	.59
3	Malarial fevers and resulting conditions	101.43	.33	.08	2.93
4	Typho-malarial fever	.60	.13	.....	.08
5	Diarrhœa, including cholera morbus	130.55	.17	.29	1.55
6	Dysentery	9.12	.13	.13	.50
7	Other miasmatic diseases	.14	.08	.....	.01
8	Gonorrhœa and results	32.45	.....	.29	1.85
9	Syphilis and results	22.31	.....	3.51	2.03
10	Other venereal diseases	17.36	.....	.08	1.05
11	Vaccina	22.45	.....	.....	.75
12	Other enthetic diseases	2.50	.....	.....	.07
13	Alcoholism	50.88	.17	.17	.53
14	Other dietic diseases	.84	.....	.04	.02
15	Rheumatism, including muscular	81.76	.04	2.76	4.02
16	Other constitutional diseases	3.06	.12	.38	.27
17	Developmental diseases	.51	.04	.84	.06
18	Parasitic diseases	3.61	.....	.....	.07
19	Headache and neuralgia	54.40	.....	.42	.98
20	Other diseases of the nervous system	12.04	.67	3.68	1.09
21	Diseases of the eye	22.27	.....	1.09	1.07
22	Diseases of the ear	6.90	.....	.50	.30
23	Catarrhs and common colds	29.12	.....	.....	.41
24	Bronchitis	66.99	.04	.54	1.42
25	Pneumonia	3.98	.88	.....	.40
26	Pulmonary phthisis	3.10	.46	1.71	.61
27	Pleuritis	2.27	.....	.08	.13
28	Other diseases of the respiratory system	5.14	.04	.33	.32
29	Diseases of the heart and valves	6.25	.67	1.34	.57
30	Other diseases of the circulatory system	1.39	.04	.33	.22
31	Tonsillitis	34.67	.....	.04	.63
32	Dyspepsia, colic, and constipation	51.99	.....	.13	.75
33	Other diseases of the digestive system	61.34	.38	1.67	1.91
34	Diseases of the kidneys	2.13	.21	.33	.27
35	Other diseases of the genito-urinary system (non-venereal)	14.81	.....	1.17	1.13
36	Diseases of the locomotor system (excluding muscular rheumatism)	5.83	.....	1.67	.60
37	Diseases of the integumentary system	81.85	.....	.21	2.29
38	All other diseases	23.56	.04	.29	1.03
39	Heat stroke	2.04	.....	.....	.03
40	Frost-bite and general freezing	3.29	.04	.04	.21
41	Contusions and sprains	134.72	.....	.25	3.72
42	Dislocations	2.45	.....	.08	.25
43	Fractures (not gunshot)	7.08	.04	.38	1.16
44	Incised, contused, lacerated, and punctured wounds	47.08	.08	.13	1.56
45	Shot wounds	3.80	.88	.46	.52
46	All other injuries	38.52	1.38	1.13	1.06
	Total for disease	992.45	5.43	24.15	33.48
	Total for injury	238.97	2.42	2.46	8.52
	Total for all causes	1,231.42	7.85	26.61	41.99

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.*

Colored Troops.

	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	5.36	.82		.72
2	Other specific febrile and acute infectious diseases, including erysipelas	30.36			1.06
3	Malarial fevers and resulting conditions	113.84	.41		3.56
4	Typho-malarial fever	.89	.41		.17
5	Diarrhœa, including cholera morbus	120.54		.41	1.72
6	Dysentery	8.93	.41		.39
7	Other miasmatic diseases				
8	Gonorrhœa and results	33.04			1.49
9	Syphilis and results	29.46		4.53	2.78
10	Other venereal diseases	33.48			2.65
11	Vaccina	24.11			.61
12	Other enthetic diseases	2.23			.02
13	Alcoholism	2.23			.02
14	Other dietic diseases				
15	Rheumatism, including muscular	117.86		3.71	4.73
16	Other constitutional diseases	8.48	.82	2.06	.64
17	Developmental diseases	.45		.82	.02
18	Parasitic diseases				
19	Headache and neuralgia	80.80		.82	1.36
20	Other diseases of the nervous system	10.71	.41	4.53	.78
21	Diseases of the eye	27.68		1.65	1.25
22	Diseases of the ear	2.68			.06
23	Catarrhs and common colds	35.71			.44
24	Bronchitis	87.50		.82	1.83
25	Pneumonia	5.80	2.06		.41
26	Pulmonary phthisis	6.25	.82	2.88	1.44
27	Pleuritis	4.46			.22
28	Other diseases of the respiratory system	14.73	.41		.17
29	Diseases of the heart and valves	5.80		2.06	.45
30	Other diseases of the circulatory system	.45			.02
31	Tonsillitis	49.11			.80
32	Dyspepsia, colic, and constipation	70.54			.74
33	Other diseases of the digestive system	58.93	.82	.41	1.08
34	Diseases of the kidneys	2.68	.41	.41	.19
35	Other diseases of the genito-urinary system (non-venereal)	18.30		2.06	.89
36	Diseases of the locomotor system (excluding muscular rheumatism	6.25		.82	.36
37	Diseases of the integumentary system	56.25			1.81
38	All other diseases	17.86		.82	1.09
39	Heat stroke	.45			
40	Frost-bite and general freezing	16.07	.41		.42
41	Contusions and sprains	161.61		.41	4.16
42	Dislocations	1.34			.04
43	Fractures (not gunshot)	2.68		.82	.77
44	Incised, contused, lacerated, and punctured wounds	70.54			1.83
45	Shot wounds	12.50	2.06	1.24	2.05
46	All other injuries	37.05	.41	.41	.96
	Total for disease	1,093.75	7.83	28.83	35.84
	Total for injury	302.23	2.88	2.88	10.23
	Total for all causes	1,395.98	10.71	31.71	46.07

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Atlantic Coast.				Fort Preble, Me.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	10.07	1.31		1.19				
2	Other specific febrile and acute infectious diseases, including erysipelas	31.07			1.31	25.64			13.77
3	Malarial fevers and resulting conditions	68.27			1.63	25.64			.21
4	Typho-malarial fever	.44	.44		.03				
5	Diarrhœa, including cholera morbus	186.43			1.61	76.92			.49
6	Dysentery	9.63	.44	.44	.57				
7	Other miasmatic diseases		.44						
8	Gonorrhœa and results	30.20		.44	1.61	25.64			.28
9	Syphilis and results	21.44		3.06	1.42				
10	Other venereal diseases	12.69			.76				
11	Vaccina	65.65			1.88	205.13			1.55
12	Other enthetic diseases								
13	Alcoholism	74.84			.70	25.64			1.19
14	Other dietic diseases								
15	Rheumatism, including muscular	84.46		2.19	2.87	282.05			4.50
16	Other constitutional diseases	3.94		.44	.09				
17	Developmental diseases	.88		2.19	.20				
18	Parasitic diseases	4.81			.18				
19	Headache and neuralgia	44.64		.44	.76	51.28			.28
20	Other diseases of the nervous system	11.82	.44	3.06	.58	25.64			.07
21	Diseases of the eye	15.75		.44	.46	25.64			.84
22	Diseases of the ear	9.63			.28	51.28			2.60
23	Catarrhs and common colds	45.51			.48	282.05			3.93
24	Bronchitis	103.28		.44	1.91				
25	Pneumonia	6.13			.85				
26	Pulmonary phthisis	1.75	.88	1.75	.24				
27	Pleuritis	1.31			.37				
28	Other diseases of the respiratory system	9.63			.54				
29	Diseases of the heart and valves	3.06		.88	.25				
30	Other diseases of the circulatory system	.44			.44				
31	Tonsillitis	38.51			.62	76.92			.84
32	Dyspepsia, colic, and constipation	77.46		.44	1.08	307.69			1.69
33	Other diseases of the digestive system	66.52		2.63	2.04	102.56			3.30
34	Diseases of the kidneys	.44			.01				
35	Other diseases of the genito-urinary system (non-venereal)	16.63		3.06	1.46				
36	Diseases of the locomotor system (excluding muscular rheumatism)	8.32		1.75	1.17			25.64	
37	Diseases of the integumentary system	100.66		.44	2.65	25.64			1.33
38	All other diseases	19.69		.44	.53	51.28			.56
39	Heat stroke	1.75			.03				
40	Frost-bite and general freezing								
41	Contusions and sprains	116.85			2.84	128.21			6.95
42	Dislocations	.88			.14				
43	Fractures (not gunshot)	4.81		.44	.89				
44	Incised, lacerated, contused, and punctured wounds	44.20			1.67	51.28			.35
45	Shot wounds	1.31		.88	.17				
46	All other injuries	38.95	3.50	1.31	.74	128.21	25.64		1.12
	Total for disease	1,186.00	3.94	24.51	32.77	1,666.67		25.64	37.44
	Total for injury	208.75	3.50	2.62	6.50	307.69	25.64		8.43
	Total for all causes	1,394.75	7.44	27.13	39.27	1,974.36	25.64	25.64	45.87

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.*

	Fort Warren, Mass.				Watertown Arsenal, Mass.				Fort Adams, R. I.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2									38.30			1.88
3					60.61			.66	12.77			.80
4												
5	178.08			1.05	30.30			.17	72.34			.64
6												
7												
8	54.79			2.40	30.30			1.33	12.77			.86
9	13.70			.08	60.61		30.30	20.00	8.51			1.11
10									8.51			.55
11	41.10			.49								.38
12												
13	95.89			.83	121.21			.50	68.09			1.28
14												
15	68.49			.68	181.81			7.97	59.57			1.75
16									25.53			.64
17											4.26	
18												
19	41.10			.34					34.04			1.17
20					151.51		30.30	8.47				
21	13.70			.08					8.51		4.26	.49
22									8.51			.49
23	109.59			.71	181.81			2.91	4.26			.12
24	41.10			.49	60.61			1.25	25.53			.90
25									21.28			2.35
26		13.70										
27												
28									55.32			4.05
29					30.30			.50	4.26		4.26	.37
30				13.70								
31	13.70			.08					21.28			.27
32	27.40			.08	30.30			.58	38.30			1.15
33	41.10			.26	60.61			4.15	80.85			1.74
34												
35					90.91			2.32	25.53		12.77	2.70
36									12.77			3.88
37	68.49			1.13	30.30			.58	51.06			1.60
38									38.30			.31
39												
40												
41	109.59			3.75	60.61			1.25	93.62			2.94
42	13.70			1.28					4.26			.93
43	41.10			6.61					4.26			1.68
44	27.40			9.46	30.30			1.00	51.06			1.76
45									4.26			.05
46	82.19			.45	121.21			13.70	25.53			.40
	808.22	13.70		22.37	1,121.21		60.61	51.39	736.17		25.53	31.49
	273.97			21.54	212.12			15.94	182.98			7.75
	1,082.19	13.70		43.91	1,333.33		60.61	67.33	919.15		25.53	39.24

Table showing for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Trumbull, Conn.				Fort Columbus, N. Y.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas					13.07			1.36
3	Malarial fevers and resulting conditions					26.14			.38
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	71.43			.47	143.79			1.72
6	Dysentery					19.61			.43
7	Other miasmatic diseases						6.54		
8	Gonorrhœa and results					13.07			.43
9	Syphilis and results	14.29			.43	13.07			.52
10	Other venereal diseases					13.07			.45
11	Vaccina					45.75			1.29
12	Other enthetic diseases								
13	Alcoholism					91.50			.47
14	Other dietic diseases								
15	Rheumatism, including muscular	42.86		14.29	7.59	45.75			1.77
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases					6.54			.16
19	Headache and neuralgia	42.86			.12	19.61			.38
20	Other diseases of the nervous system	14.29			.35	19.61			1.40
21	Diseases of the eye					39.22			.68
22	Diseases of the ear					26.14			.38
23	Catarrhs and common colds	14.29			.08	39.22			.50
24	Bronchitis	57.14			.86	58.82			.79
25	Pneumonia								
26	Pulmonary phthisis					6.54			.30
27	Pleuritis					6.54			.11
28	Other diseases of the respiratory system	14.29			.12	19.61		13.07	.30
29	Diseases of the heart and valves					6.54			.27
30	Other diseases of the circulatory system								
31	Tonsillitis	14.29			.12	13.07			.14
32	Dyspepsia, colic, and constipation	28.57			.70	52.29			.36
33	Other diseases of the digestive system					78.43		6.54	2.10
34	Diseases of the kidneys					6.54			.14
35	Other diseases of the genito-urinary system (non-venereal)					13.07			1.16
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	42.86			.47	32.68			.98
38	All other diseases								
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	100.00			3.87	91.50			3.37
42	Dislocations								
43	Fractures (not gunshot)					6.54			.30
44	Incised, lacerated, contused, and punctured wounds					13.07			.84
45	Shot wounds	14.29		14.29	5.17	6.54			.11
46	All other injuries					26.14		6.54	1.29
	Total for disease	357.14		14.29	11.32	869.28	6.54	19.61	18.96
	Total for injury	114.29		14.29	9.04	143.79		6.54	5.91
	Total for all causes	471.43		28.57	20.36	1,013.07	6.54	26.14	24.87

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Schuyler, N. Y.				Fort Hamilton, N. Y.				Fort Wadsworth, N. Y.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2					5.71			.23				
3	14.49			.83	205.71			3.16	100.00			1.92
4					5.71	5.71		.34				
5	260.87			3.34	80.00			.67	225.00			1.37
6	14.49			.99	5.71			.74				
7												
8	28.99			1.39	11.43			.50				
9					57.14		5.71	3.15				
10												
11					11.43			.13	25.00			.21
12												
13	28.99			.08	45.71			.31				
14												
15	130.43			3.61	80.00			2.43	25.00			.07
16												
17											25.00	
18												
19	43.48			2.66	62.86		5.71	1.14	50.00			.21
20	14.49	14.49		.32					50.00			2.25
21	28.99			.44	11.43			.19				
22												
23	72.46			.36	68.57			.86				
24	144.93			2.18	11.43			.52	75.00			.55
25	14.49			2.38								
26									25.00		25.00	3.90
27	14.49			3.85				3.16				
28	14.49			.32								
29	14.49			.16								
30												
31	14.49			.16	17.14			.11	25.00			.68
32	72.46			.71	57.14			.72	25.00			.07
33	28.99			.40	34.29			.41	100.00		25.00	6.99
34												
35	14.49		14.49	2.34	5.71			.28				
36			14.49	2.86	5.71			.19				
37	43.48			1.99	85.71			5.07				
38	14.49		14.49	.48								
39	57.97			.91								
40												
41	101.45			.95	131.43			3.08	75.00			.68
42												
43					17.14		5.71	3.33				
44	72.46			4.37	68.57			1.50	100.00			.75
45												
46	72.46		14.49	1.11	17.14			.08				
	1,028.98	14.49	43.48	31.84	868.57	5.71	11.43	24.31	725.00		75.00	18.49
	304.35		14.49	7.35	234.29		5.71	8.00	175.00			1.44
	1,333.33	14.49	57.97	39.19	1,102.86	5.71	17.14	32.31	900.00		75.00	19.93

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Wood, N. Y.				David's Island, N. Y.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					3.48	3.48		.10
2	Other specific febrile and acute infectious diseases, including erysipelas					62.72			2.30
3	Malarial fevers and resulting conditions					38.33			1.42
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus					99.30			.97
6	Dysentery					1.74			.07
7	Other miasmatic diseases								
8	Gonorrhœa and results				.18	54.01		1.74	2.31
9	Syphilis and results					22.65		1.74	1.00
10	Other venereal diseases					15.68			.55
11	Vaccina					221.25			6.71
12	Other enthetic diseases								
13	Alcoholism					6.97			.10
14	Other dietic diseases								
15	Rheumatism, including muscular	66.67			.18	57.49		3.48	2.34
16	Other constitutional diseases					1.74			.04
17	Developmental diseases								
18	Parasitic diseases					15.68			.66
19	Headache and neuralgia					47.04			.90
20	Other diseases of the nervous system				.37	5.23			.42
21	Diseases of the eye					22.65			.89
22	Diseases of the ear					6.97			.36
23	Catarrhs and common colds					69.69			.76
24	Bronchitis					87.11			2.32
25	Pneumonia					12.20			1.98
26	Pulmonary phthisis							1.74	
27	Pleuritis								
28	Other diseases of the respiratory system					3.48			.29
29	Diseases of the heart and valves					3.48			.22
30	Other diseases of the circulatory system								
31	Tonsillitis					92.33			1.73
32	Dyspepsia, colic, and constipation	66.66			.55	92.33		1.74	1.28
33	Other diseases of the digestive system					57.49			1.12
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)					19.16		1.74	.91
36	Diseases of the locomotor system (excluding muscular rheumatism)					3.48		1.74	.74
37	Diseases of the integumentary system	66.67			.73	149.83		1.74	3.29
38	All other diseases				.18	8.71			.24
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains				.18	78.40			1.53
42	Dislocations								
43	Fractures (not gunshot)					3.48			.54
44	Incised, lacerated, contused, and punctured wounds					41.81			1.13
45	Shot wounds								
46	All other injuries					31.36	5.23		.31
	Total for disease	200.00			2.19	1,282.23	3.48	15.68	36.02
	Total for injury				.18	155.05	5.23		3.51
	Total for all causes	200.00			2.37	1,437.28	8.71	15.68	39.53

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Willets Point, N. Y.				New York City, N. Y.				Fort Monroe, Va.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1									81.71	3.89		10.32
2	5.26			.25					77.82			1.40
3	102.63			2.82	16.39			.27	31.13			.28
4												
5	489.48			4.39					214.01			1.45
6	23.68	2.63	2.63	2.26					11.67			.37
7												
8	42.11			3.50					19.46			.98
9	18.42		10.53	1.83					15.56			.62
10	26.32			2.29					23.35			1.35
11									7.78			.07
12												
13	171.05			1.62					120.62			.82
14												
15	139.47			4.69					73.93			2.11
16	2.63			.06					3.89		3.89	.01
17	5.26		7.89	1.23								
18									3.89			.03
19	55.26			.66					38.91			.44
20	13.16		5.26	.50					19.46		3.89	.95
21	13.16			.53					15.56			.05
22	23.68			.39					3.89			.03
23	5.26			.09					38.91			.17
24	356.84			4.69	32.79			.54	54.47		3.89	1.41
25	2.63			.23								
26	2.63	2.63	5.26	.66	16.39			.99				.14
27									3.89			.01
28	2.63			.09					3.89			.02
29											3.89	1.08
30	2.63			.01								
31	34.21			.45					11.67			.16
32	128.95			2.52					73.93			.39
33	142.11		7.89	3.78					31.13			1.07
34												
35	15.79		2.63	2.24				10.87	19.46			.35
36	5.26		2.63	.50					42.80			3.58
37	171.05			4.46					81.71			2.13
38	18.42			.24					73.93			3.39
39												
40												
41	223.69			4.77					105.06			2.47
42												
43				.02					3.89			8.30
44	47.37			1.49					62.26			2.76
45			2.63									
46	71.05	5.26		1.24					31.13	7.78		.50
	2,000.02	5.26	44.74	46.97	65.57			12.67	1,198.44	3.89	15.56	35.10
	342.71	5.26	2.63	7.53					202.34	7.78		6.57
	2,342.13	10.52	47.37	54.50	65.57			12.67	1,400.78	11.67	15.56	41.67

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations.	St. Francis Barracks, Fla.				In the field, Atlantic Coast.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions	343.75			8.10	133.33			.55
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	177.08			1.00	600.00			2.00
6	Dysentery	31.25			.34	66.67			1.10
7	Other miasmatic diseases								
8	Gonorrhœa and results	20.83			.97				
9	Syphilis and results	72.92			2.48				
10	Other venereal diseases								
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	197.92			1.68				
14	Other dietic diseases								
15	Rheumatism, including muscular	177.08		20.83	5.22				
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	93.75			1.06				
20	Other diseases of the nervous system	10.42		10.42	.03				
21	Diseases of the eye								
22	Diseases of the ear								
23	Catarrhs and common colds	20.83			.09				
24	Bronchitis	31.25			1.26				
25	Pneumonia								
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves	10.42			.11				
30	Other diseases of the circulatory system								
31	Tonsillitis	20.83			.29				
32	Dyspepsia, colic, and constipation	52.08			.31				
33	Other diseases of the digestive system	52.08		10.42	9.47				
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	31.25		10.42	1.14				
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	114.58			1.83	66.67			.18
38	All other diseases	10.42			.06	66.67			.18
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	197.92			5.16				
42	Dislocations								
43	Fractures (not gunshot)					66.67			.37
44	Incised, lacerated, contused, and punctured wounds	20.83			.17				
45	Shot wounds								
46	All other injuries	31.25		10.42	.17				
	Total for disease	1,468.75		52.08	35.44	933.33			4.02
	Total for injury	250.00		10.42	5.51	66.67			.37
	Total for all causes	1,718.75		62.50	40.95	1,000.00			4.39

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Eastern Timbered Plains and Hills.				Kennebec Arsenal, Me.				Springfield Armory, Mass.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	4.36	1.09	.....	.67	.....	.....	.....	.....	.....	.....	.....	.....
2	20.72	.....	.....	.74	.....	.....	.....	.....	150.00	.....	.....	1.50
3	263.90	1.09	.....	4.61	62.50	.....	.....	7.70	150.00	.....	.....	5.82
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	200.65	.....	.....	2.70	187.50	.....	.....	.68	75.00	.....	.....	.68
6	5.45	.....	.....	.14	.....	.....	.....	.....	.....	.....	.....	.....
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	25.08	.....	.....	1.47	.....	.....	.....	.....	.....	.....	.....	.....
9	35.99	.....	4.36	3.12	.....	.....	.....	.....	.....	.....	.....	.....
10	10.91	.....	.....	.45	.....	.....	.....	.....	25.00	.....	.....	.43
11	4.36	.....	.....	.04	.....	.....	.....	.....	.....	.....	.....	.....
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13	37.08	.....	.....	.48	.....	.....	.....	.....	125.00	.....	.....	1.03
14	4.36	.....	.....	.15	.....	.....	.....	.....	.....	.....	.....	.....
15	88.33	.....	2.18	2.46	250.00	.....	.....	3.42	75.00	.....	.....	1.19
16	4.36	.....	.....	.21	.....	.....	.....	.....	25.00	.....	.....	2.26
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18	4.36	.....	.....	.11	.....	.....	.....	.....	.....	.....	.....	.....
19	54.53	.....	.....	.65	.....	.....	.....	.....	200.00	.....	.....	5.00
20	12.00	2.18	2.18	.38	125.00	.....	.....	1.54	.....	25.00	.....	.....
21	18.54	.....	.....	.68	.....	.....	.....	.....	.....	.....	.....	.....
22	4.36	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....
23	53.14	.....	.....	.18	750.00	.....	.....	5.65	25.00	.....	.....	.55
24	118.87	.....	.....	2.49	250.00	.....	.....	1.71	.....	.....	.....	.....
25	6.54	2.18	.....	.27	.....	.....	.....	.....	.....	.....	.....	.....
26	4.36	1.09	1.09	.51	.....	.....	.....	.....	.....	.....	.....	.....
27	4.36	.....	.....	.18	62.50	.....	.....	.51	.....	.....	.....	.....
28	2.18	.....	.....	.10	.....	.....	.....	.....	.....	.....	.....	.....
29	8.72	1.09	1.09	1.31	.....	.....	.....	.....	25.00	.....	.....	1.30
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
31	20.72	.....	.....	.22	62.50	.....	.....	.17	25.00	.....	.....	.21
32	52.34	.....	.....	.63	62.50	.....	.....	.17	50.00	.....	.....	.34
33	62.16	.....	1.09	2.40	312.50	.....	.....	1.20	25.00	.....	.....	.21
34	3.27	.....	.....	.25	.....	.....	.....	.....	.....	.....	.....	.....
35	14.18	.....	1.09	.47	.....	.....	.....	.....	.....	.....	.....	.....
36	1.09	.....	1.09	.24	.....	.....	.....	.....	.....	.....	.....	.....
37	70.88	.....	.....	1.55	62.50	.....	.....	.51	.....	.....	.....	.....
38	10.91	.....	.....	.39	250.00	.....	.....	2.91	.....	.....	.....	.....
39	3.27	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	93.78	.....	.....	2.81	.....	.....	.....	.....	50.00	.....	.....	1.64
42	2.18	.....	1.09	.18	.....	.....	.....	.....	.....	.....	.....	.....
43	6.54	.....	.....	1.02	.....	.....	.....	.....	.....	.....	.....	.....
44	50.16	.....	.....	.90	.....	.....	.....	.....	25.00	.....	.....	.27
45	3.27	.....	.....	.13	.....	.....	.....	.....	.....	.....	.....	.....
46	34.90	1.09	1.09	.61	62.50	.....	.....	.86	50.00	.....	.....	1.10
	1,233.37	8.72	14.18	29.45	2,437.50	.....	.....	26.20	975.00	25.00	.....	20.41
	194.11	1.09	2.18	5.66	62.50	.....	.....	.86	125.00	.....	.....	3.01
	1,427.48	9.81	16.36	35.11	2,500.00	.....	.....	27.06	1,100.00	25.00	.....	23.42

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	West Point, N. Y.				Frankford Arsenal, Pa.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever				.09				
2	Other specific febrile and acute infectious diseases, including erysipelas	3.05			.09				
3	Malarial fevers and resulting conditions	125.00			1.70	58.82			.32
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	109.76			.91	58.82			.48
6	Dysentery	3.05			.04				
7	Other miasmatic diseases								
8	Gonorrhœa and results	3.05			.05				
9	Syphilis and results								
10	Other venereal diseases	6.10			.43				
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	6.10			.04				
14	Other dietic diseases								
15	Rheumatism, including muscular	82.32			2.21	205.88			9.67
16	Other constitutional diseases	3.05			.01				
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	67.07			.62				
20	Other diseases of the nervous system	12.20		3.05	.52				
21	Diseases of the eye	27.44			.43				
22	Diseases of the ear	6.10			.12				
23	Catarrhs and common colds	27.44			.21	117.65			.89
24	Bronchitis	146.34			1.29	117.65			1.53
25	Pneumonia	3.05			.07	29.41	29.41		.64
26	Pulmonary phthisis	9.15	3.05		.73				
27	Pleuritis	6.10			.23				
28	Other diseases of the respiratory system	3.05			.07				
29	Diseases of the heart and valves	15.24	3.05		1.80	58.82			10.15
30	Other diseases of the circulatory system								
31	Tonsillitis	30.49			.25	58.82			.48
32	Dyspepsia, colic, and constipation	79.27			.57				
33	Other diseases of the digestive system	67.07			2.90	88.24			1.53
34	Diseases of the kidneys	3.05			.54				
35	Other diseases of the genito-urinary system (non-venereal)	12.20			.11	58.82			.56
36	Diseases of the locomotor system (excluding muscular rheumatism)				.49				
37	Diseases of the integumentary system	54.88			.87	29.41			.32
38	All other diseases					58.82			1.93
39	Heat stroke	6.10			.04				
40	Frost-bite and general freezing								
41	Contusions and sprains	112.80			2.46				
42	Dislocations								
43	Fractures (not gunshot)	3.05			.92				
44	Incised, lacerated, contused, and punctured wounds	57.93			1.39	29.41			.56
45	Shot wounds								
46	All other injuries	33.54			.49	29.41			.16
	Total for disease	911.59	6.10	3.05	17.38	941.18	29.41		28.53
	Total for injury	213.41			5.31	58.82			.73
	Total for all causes	1,125.00	6.10	3.05	22.69	1,000.00	29.41		29.26

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Philadelphia, Pa.				Fort McHenry, Md.				Fort Myer, Va.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1									15.63			2.01
2					59.83			2.46	15.63			.34
3					213.68			4.89	281.25	15.62		3.98
4												
5					111.11			1.17	546.88			2.95
6					8.55			.33	15.63			.09
7												
8					94.02			5.13	78.13			3.21
9					76.92		17.09	5.36	31.25		15.62	.60
10					8.55			.28	62.50			2.65
11					34.19			.35				
12												
13					34.19			.49	15.63			.04
14					8.55			.16				
15					76.92		8.55	3.35	78.12			4.24
16									15.63			1.24
17												
18					17.09			.44				
19					111.11			1.24	31.25			.13
20					17.09	8.55	8.55	.98				
21					42.74			3.54				
22									15.63			.17
23					8.55			.02	15.63			.09
24					230.77			8.99	31.25			.09
25					17.09	8.55		.61	15.63			.56
26												
27					8.55			.68				
28												
29								.14				
30												
31					34.19			.61				
32					25.64			.35	46.88			.43
33					94.02			3.63	78.12			3.55
34									15.62			.64
35					17.09			1.12	31.25		15.63	2.31
36							8.55	.42				
37					111.11			1.92	156.25			2.57
38					8.55			.28	31.25			1.32
39									15.62			.04
40												
41					51.28			6.04	250.00			3.77
42					8.55			1.08	15.62		15.62	.60
43					8.55			1.40	15.63			1.07
44					42.74			.52	78.13			.90
45					17.09			.66				
46					34.19	8.55		.96	93.75		15.62	2.14
					1,470.09	17.09	42.74	49.01	1,625.00	15.62	31.25	33.22
					162.39	8.55		10.66	468.75		31.25	8.52
					1,632.48	25.64	42.74	59.67	2,093.75	15.62	62.50	41.74

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Washington Barracks, D. C.				Augusta Arsenal, Ga.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	11.24	3.75		1.71				
2	Other specific febrile and acute infectious diseases, including erysipelas	11.24			.80	37.04			2.54
3	Malarial fevers and resulting conditions	550.56			9.26				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	325.84			3.22	111.11			.41
6	Dysentery	7.49			.27				
7	Other miasmatic diseases								
8	Gonorrhœa and results	22.47			1.97				
9	Syphilis and results	82.40		3.75	8.21				
10	Other venereal diseases	7.49			.22				
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	82.40			1.21				
14	Other dictic diseases	11.24			.43				
15	Rheumatism, including muscular	89.89		3.75	1.52	74.07			1.32
16	Other constitutional diseases	3.75			.08				
17	Developmental diseases								
18	Parasitic diseases	7.49			.19				
19	Headache and neuralgia	14.98			.15	37.04			.10
20	Other diseases of the nervous system	11.24			.15				
21	Diseases of the eye	11.24			.28				
22	Diseases of the ear	3.75			.02				
23	Catarrhs and common colds	78.65			.84				
24	Bronchitis	86.14			2.67	37.04			.51
25	Pneumonia	3.75			.34				
26	Pulmonary phthisis					37.04		37.04	8.52
27	Pleuritis								
28	Other diseases of the respiratory system	3.75			.26				
29	Diseases of the heart and valves			3.75	.05				
30	Other diseases of the circulatory system								
31	Tonsillitis	3.75			.08				
32	Dyspepsia, colic, and constipation	44.94			1.13	37.04			.30
33	Other diseases of the digestive system	29.96		3.75	1.70	74.07			2.23
34	Diseases of the kidneys					37.04			.51
35	Other diseases of the genito-urinary system (non-venereal)	3.75			.27	74.07			1.12
36	Diseases of the locomotor system (excluding muscular rheumatism)	3.75			.03				
37	Diseases of the integumentary system	74.91			2.53	74.07			1.83
38	All other diseases	3.75			.49				
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	89.89			2.80	37.04			.41
42	Dislocations								
43	Fractures (not gunshot)	11.24			1.52				
44	Incised, lacerated, contused, and punctured wounds	48.69			.72				.51
45	Shot wounds	3.75			.15				
46	All other injuries	22.47			.26	37.04			.51
	Total for disease	1,591.76	3.75	14.98	40.09	629.63		37.04	19.38
	Total for injury	176.03			5.45	74.07			1.42
	Total for all causes	1,767.79	3.75	14.98	45.54	703.70		37.04	20.80

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	In the field, Eastern Timbered Plains and Hills.				**Appalachian Mountains.**				Watervliet Arsenal, N. Y.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	**Admitted.**	**Died.**	**Discharged.**	**Constantly non-effective.**	Admitted.	Died.	Discharged.	Constantly non-effective.
1					**29.41**	**14.71**		**5.68**	25.00			8.90
2					**44.12**			**1.05**	75.00			1.78
3	500.00			1.37	**58.82**			**.36**	75.00			.48
4												
5	500.00			1.37	**279.41**			**2.42**	375.00			2.94
6												
7												
8					**14.71**			**.08**	25.00			.14
9					**14.71**			**.16**	25.00			.27
10					**29.41**			**3.26**	50.00			5.54
11												
12												
13					**14.71**			**.08**				
14												
15					**161.76**			**1.61**	200.00			1.71
16												
17												
18												
19					**88.24**			**.64**	100.00			.68
20												
21												
22												
23					**14.71**			**.08**	25.00			.14
24					**102.94**			**1.13**	125.00			1.03
25					**29.41**	**29.41**		**.60**	50.00	25.00		1.03
26												
27												
28												
29												
30												
31					**29.41**			**.60**	25.00			.21
32					**29.41**			**.12**	50.00			.29
33					**73.53**			**2.74**	75.00			3.97
34												
35												
36					**29.41**			**1.77**				
37					**14.71**			**.44**				
38												
39												
40												
41					**88.24**			**1.93**	100.00			2.12
42												
43												
44	500.00			2.74	**44.12**			**.68**	75.00			1.16
45												
46					**58.82**			**.60**	50.00			.34
	1,000.00			2.74	**1,058.82**	**44.12**		**22.85**	1,300.00	25.00		29.04
	500.00			2.74	**191.18**			**3.22**	225.00			3.63
	1,500.00			5.48	**1,250.00**	**44.12**		**26.07**	1,525.00	25.00		32.67

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Allegheny Arsenal, Pa.				Northern Lakes.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	35.71	35.71		1.08	2.49			.42
2	Other specific febrile and acute infectious diseases, including erysipelas					10.77			.45
3	Malarial fevers and resulting conditions	35.71			.20	43.91			1.08
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	142.86			1.66	78.71			.62
6	Dysentery					4.97			.10
7	Other miasmatic diseases					.83	.83		.10
8	Gonorrhœa and results					34.80		.83	1.83
9	Syphilis and results					17.40		3.31	.78
10	Other venereal diseases					20.71		.83	1.60
11	Vaccina					15.74			.24
12	Other enthetic diseases					1.66			.01
13	Alcoholism	35.71			.20	39.77		.83	.30
14	Other dietic diseases								
15	Rheumatism, including muscular	107.14			1.47	47.22		2.49	1.74
16	Other constitutional diseases					2.49			.07
17	Devolopmental diseases					2.49		1.66	.08
18	Parasitic diseases					5.80			.07
19	Headache and neuralgia	71.43			.59	35.63		.83	.67
20	Other diseases of the nervous system					8.29			.98
21	Diseases of the eye					21.54		1.66	1.04
22	Diseases of the ear					.83			.02
23	Catarrhs and common colds					23.20			.28
24	Bronchitis	71.43			1.27	52.20			.72
25	Pneumonia		35.71			.83			.15
26	Pulmonary phthisis					4.14	.83	2.49	.35
27	Pleuritis					1.66			.02
28	Other diseases of the respiratory system					5.80	1.66		.23
29	Diseases of the heart and valves					7.46		1.66	.89
30	Other diseases of the circulatory system					.83		.83	.15
31	Tonsillitis	35.71			1.17	40.60			.66
32	Dyspepsia, colic, and constipation					32.31			.31
33	Other diseases of the digestive system	71.43			.98	53.02		3.31	.94
34	Diseases of the kidneys					.83			.08
35	Other diseases of the genito-urinary system (non-venereal)					14.08			.52
36	Diseases of the locomotor system (excluding muscular rheumatism)	71.43			4.31	2.49			.01
37	Diseases of the integumentary system	35.71			1.08	51.37			1.40
38	All other diseases					13.25			.62
39	Heat stroke					1.66			.004
40	Frost-bite and general freezing					4.97			.37
41	Contusions and sprains	71.43			1.66	93.62			2.49
42	Dislocations					3.31			.24
43	Fractures (not gunshot)					4.97			.79
44	Incised, lacerated, contused, and punctured wounds					51.37	.83		1.40
45	Shot wounds					3.31	1.66		.11
46	All other injuries	71.43			.98	29.00	3.31		.76
	Total for disease	714.28	71.43		13.99	700.08	3.31	20.71	19.55
	Total for injury	142.86			2.64	192.21	5.80		6.17
	Total for all causes	857.14	71.43		16.63	892.29	9.11	20.71	25.72

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Brady, Mich.				Fort Mackinac, Mich.				St. Paul, Minn.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2					13.70			.53				
3	13.89			1.98								
4												
5	194.44			1.33	150.69			.83				
6	13.89			.04	13.70			.15				
7					13.70			1.58				
8	69.44			2.93	27.40			3.60				
9	41.67			.95	13.70		13.70	1.20				
10	13.89			.61								
11												
12												
13	138.89			.99	41.09			.19				
14												
15	41.67			1.19	82.19		13.70	2.06				
16					13.70			.11				
17												
18												
19	41.67			.19	68.49		13.70	1.50				
20												
21	27.78			.19	13.70		13.70	.08				
22												
23	55.56			.99	13.70			.04				
24	152.77			1.37	82.19			1.54				
25												
26												
27	13.89			.11								
28												
29												
30												
31	27.78			.27	41.09			.38				
32	41.67			.15	13.70			.11				
33	138.89			.65	95.89			.64	34.48			.09
34												
35	27.78			1.29								
36												
37	83.33			1.64								
38					13.70			.08				
39												
40					13.70			1.58				
41	208.33			3.96	68.49			3.34				
42					27.40			1.09				
43					13.70			3.34				
44	111.11			1.52	109.59			1.61				
45												
46	41.67			.65	41.09	13.70		4.92				
	1,138.89			16.78	712.33		54.80	14.60	34.48			.09
	361.11			6.12	273.97	13.70		15.88				
	1,500.00			22.90	986.30	13.70	54.80	30.48	34.48			.09

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Snelling, Minn.				Plattsburg Barracks, N. Y.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	10.00			1.67				
2	Other specific febrile and acute infectious diseases, including erysipelas	20.00			.66	24.39			1.00
3	Malarial fevers and resulting conditions	3.33			.01				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	26.67			.32	48.78			.27
6	Dysentery	3.33			.02				
7	Other miasmatic diseases								
8	Gonorrhœa and results	16.67			.45	48.78			2.61
9	Syphilis and results	16.67		10.00	.59	24.39			.35
10	Other venereal diseases	13.33			1.18	24.39			1.40
11	Vaccina								
12	Other enthetic diseases	6.67			.05				
13	Alcoholism					48.78			.33
14	Other dietic diseases								
15	Rheumatism, including muscular	36.67			.63	48.78			.27
16	Other constitutional diseases	3.33			.15				
17	Developmental diseases	3.33		3.33	.16				
18	Parasitic diseases								
19	Headache and neuralgia	20.00			.23	48.78			.53
20	Other diseases of the nervous system	6.67			.16	24.39			10.62
21	Diseases of the eye	10.00		3.33	.30	24.39			.40
22	Diseases of the ear	3.33			.08				
23	Catarrhs and common colds								
24	Bronchitis	13.33			.33				
25	Pneumonia	3.33			.59				
26	Pulmonary phthisis	6.67	3.33	3.33	.83				
27	Pleuritis	3.33			.07				
28	Other diseases of the respiratory system	13.33			.59				
29	Diseases of the heart and valves	13.33		6.67	3.21				
30	Other diseases of the circulatory system	3.33		3.33	.62				
31	Tonsillitis	23.33			.45	24.39			.27
32	Dyspepsia, colic, and constipation	40.00			.37	24.39			.13
33	Other diseases of the digestive system	50.00		6.67	1.17				
34	Diseases of the kidneys	3.33			.33				
35	Other diseases of the genito-urinary system (non-venereal)	10.00			.69				
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	63.33			1.42	48.78			.40
38	All other diseases	13.33			.66	24.39			1.54
39	Heat stroke								
40	Frost-bite and general freezing	10.00			.79				.33
41	Contusions and sprains	70.00			1.32	48.78			
42	Dislocations								
43	Fractures (not gunshot)	3.33			.49				
44	Incised, lacerated, contused, and punctured wounds	70.00	3.33		2.22	73.17			4.28
45	Shot wounds	13.33			.43				
46	All other injuries	20.00			.15	24.39			.20
	Total for disease	460.00	3.33	36.67	18.00	487.81			20.31
	Total for injury	186.67	3.33		5.41	146.34			4.81
	Total for all causes	646.67	6.67	36.67	23.41	634.15			25.12

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Madison Barracks, N. Y.				Fort Ontario, N. Y.				Fort Niagara, N. Y.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2					24.39			.89				
3	62.22			2.07	97.56			.69				
4												
5	106.67			1.02	48.78			.27	126.44			.87
6	8.89			.36								
7		4.44										
8	8.89			.45	73.17			3.01				
9	13.33			1.01	97.56			4.54				
10	22.22			1.57	24.39		24.39	6.75				
11	13.33			.46								
12												
13	57.78			.68	121.95			.87	34.48			.13
14												
15	84.44		8.89	4.99	24.39			.33	11.49			.06
16												
17									22.99		11.49	.60
18	4.44			.01								
19	48.89			.69	73.17			.47				
20									22.99			5.64
21	26.67			1.61								
22												
23	66.67			.71	146.34			1.07				.63
24	26.67			.56	24.39			.80	91.95			1.01
25												
26									11.49		11.49	.94
27												
28												
29	13.33	4.44		.12								
30												
31	26.67			.52	73.17			.47	114.94			1.85
32	35.56			.50	73.17			.27				
33	40.00			.93				.07	11.49		11.49	1.48
34												
35	4.44			.09	48.78			1.34				
36												
37	40.00			2.65				3.81	45.98			1.20
38	17.78			.65					11.49			.09
39												
40	4.44			.33								
41	120.00			4.86	48.78			2.14	68.97			1.42
42									11.49			.69
43	4.44			.51	24.39			6.48	11.49			1.67
44	62.22			2.00	48.78			.27	34.48			.98
45												
46	17.78			.24		24.39			11.49			.16
	728.89	8.89	8.89	21.65	951.22		24.39	25.46	505.75		34.48	14.46
	208.89			7.94	121.95	24.39		8.89	137.93			4.91
	937.78	8.89	8.89	29.59	1,073.17	24.39	24.39	34.35	643.68		34.48	19.37

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Porter, N. Y.				Fort Wayne, Mich.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas	26.67			1.46	6.02			.58
3	Malarial fevers and resulting conditions	40.00			2.19	156.63			2.54
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	26.67			.15	96.39			.69
6	Dysentery	13.33			.22				
7	Other miasmatic diseases								
8	Gonorrhœa and results	26.67			1.42	126.51		6.02	7.00
9	Syphilis and results					24.10			1.04
10	Other venereal diseases	53.33			4.60	54.22			2.84
11	Vaccina	106.67			1.24	48.19			.58
12	Other cuthetic diseases								
13	Alcoholism	53.33			.33	48.19		6.02	.25
14	Other dietic diseases								
15	Rheumatism, including muscular	26.67			.62	60.24			2.33
16	Other constitutional diseases	13.33			.44				
17	Developmental diseases								
18	Parasitic diseases	80.00			1.06				
19	Headache and neuralgia	53.33			1.50	54.22			1.85
20	Other diseases of the nervous system	13.33			1.42	18.07			.46
21	Diseases of the eye					72.29			4.62
22	Diseases of the ear								
23	Catarrhs and common colds								
24	Bronchitis	146.67			1.79	84.34			.69
25	Pneumonia								
26	Pulmonary phthisis					6.02		6.02	.50
27	Pleuritis								
28	Other diseases of the respiratory system	26.67			.56	6.02			.33
29	Diseases of the heart and valves					12.05	6.02		.33
30	Other diseases of the circulatory system								
31	Tonsillitis	80.00			.84	60.24			1.32
32	Dyspepsia, colic, and constipation	53.33			.40	30.12			.43
33	Other diseases of the digestive system	26.67			.58	84.32		6.02	1.22
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	40.00			.65	36.14			1.23
36	Diseases of the locomotor system (excluding muscular rheumatism)					18.07			.16
37	Diseases of the integumentary system	53.33			.44	102.41			1.39
38	All other diseases				1.35	24.10			1.12
39	Heat stroke					12.05			.03
40	Frost-bite and general freezing					6.02			.13
41	Contusions and sprains	173.33			5.63	114.46			1.60
42	Dislocations	13.33			2.01				
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds	26.67			.65	6.02			.03
45	Shot wounds						12.05		
46	All other injuries	40.00	13.33		.37	60.24	6.02		.69
	Total for disease	960.00			23.27	1,228.92	6.02	24.09	33.64
	Total for injury	253.33	13.33		8.66	198.79	18.07		2.49
	Total for all causes	1,213.33	13.33		31.93	1,427.71	24.09	24.09	36.13

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Chicago, Ill.				Camp at Highwood, Ill.				In the field, Northern Lakes.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2	19.61			.54								
3	19.61			.27	83.33			4.11	57.14			.47
4												
5	19.61			.38					114.29			.70
6												
7												
8												
9												
10												.93
11												
12												
13												
14												
15	19.61			1.18	83.33			3.65				
16												
17												
18												
19												
20									28.57			.86
21					83.33			.23				
22												
23					166.67			.91				
24	19.61			1.07					28.57			.16
25												
26	19.61			.11								
27												
28												
29												
30												
31	19.61			.54								
32					83.33			.23	28.57			.16
33	58.82			.91					57.14			1.64
34												
35												
36												
37									28.57			.47
38					83.33			1.37				.70
39												
40												
41					166.67			4.57	28.57			.55
42												
43									28.57			.86
44												.86
45												
46	39.22			4.08	83.33			2.74	28.57			.23
	196.08			5.00	583.33			10.50	342.86			6.11
	39.21			4.08	250.00			7.31	85.71			2.50
	235.29			9.08	833.33			17.81	428.57			8.61

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Central Timbered Plains and Hills.				Columbus Barracks, Ohio.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	7.64	2.29		1.15				
2	Other specific febrile and acute infectious diseases, including erysipelas	42.78	.76		2.92	70.18			2.77
3	Malarial fevers and resulting conditions	326.20	2.29		13.59	190.48			4.58
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	223.84		.76	4.67	90.23			1.02
6	Dysentery	3.82			.12				
7	Other miasmatic diseases								
8	Gonorrhœa and results	118.41		.76	5.96	250.63			12.57
9	Syphilis and results	44.31		8.40	4.21	65.16		25.06	5.82
10	Other venereal diseases	45.84			2.30	72.68			3.58
11	Vaccina	178.76			7.91	288.22			15.15
12	Other enthetic diseases	4.58			.09	12.53			.26
13	Alcoholism	16.04			.20	17.54			.33
14	Other dietic diseases								
15	Rheumatism, including muscular	76.39		4.58	5.19	30.08		7.52	1.54
16	Other constitutional diseases	2.29	.76	.76	.20				
17	Developmental diseases	.76	.76	.76	.14				
18	Parasitic diseases	10.70			.24	30.08			.71
19	Headache and neuralgia	48.90		2.29	1.17	12.53			.17
20	Other diseases of the nervous system	19.86	.76	1.53	2.04	22.56			1.15
21	Diseases of the eye	35.91			1.78	67.67			2.07
22	Diseases of the ear	9.17			.28	17.54			.60
23	Catarrhs and common colds	16.04			.57				
24	Bronchitis	58.82		1.53	1.62	47.62		2.51	1.55
25	Pneumonia	17.57	3.82		1.59	7.52			.55
26	Pulmonary phthisis	5.35	.76	1.53	1.05	2.51			.78
27	Pleuritis	3.82			.08	5.01			.07
28	Other diseases of the respiratory system	2.29	.76		.05	5.01			.15
29	Diseases of the heart and valves	3.06	.76		.19	5.01			.16
30	Other diseases of the circulatory system	.76			.32	2.51			1.04
31	Tonsillitis	83.27			1.85	135.34			2.99
32	Dyspepsia, colic, and constipation	43.54			.85	65.16			.62
33	Other diseases of the digestive system	54.24	1.53		1.65	110.28			2.51
34	Diseases of the kidneys	4.58	.76	.76	.33	10.03	2.51	2.51	.53
35	Other diseases of the genito-urinary system (non-venereal)	21.39		.76	.90	12.53			.80
36	Diseases of the locomotor system excluding muscular rheumatism	3.82		.76	.33	5.01			.43
37	Diseases of the integumentary system	115.36		.76	3.20	50.13			1.48
38	All other diseases	18.33		.76	1.12	25.06			2.25
39	Heat stroke	.76			.05				
40	Frost-bite and general freezing	3.06			.05				
41	Contusions and sprains	168.07			4.74	125.31			2.55
42	Dislocations	3.06			.26	2.51			.05
43	Fractures (not gunshot)	1.53			.62				
44	Incised, lacerated, contused, and punctured wounds	42.02		.76	1.37	42.61		2.51	1.96
45	Shot wounds	3.06		.76	.63	2.51			.92
46	All other injuries	54.24	1.53	.76	1.48	42.61	2.51		.78
	Total for disease	1,668.45	16.04	26.74	69.88	1,726.82	2.51	37.59	68.24
	Total for injury	275.78	1.53	2.29	9.19	215.54	2.51	2.51	6.27
	Total for all causes	1,944.23	17.57	29.03	79.07	1,942.36	5.01	40.10	74.51

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Newport Barracks, Ky.				Indianapolis Arsenal, Ind.				Jefferson Barracks, Mo.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1									11.96	4.48		1.98
2	25.00			.41					38.86	1.49		3.99
3	150.00			1.71	296.30			3.35	402.10	4.48		22.29
4												
5	50.00			.27	259.26			1.83	325.87			7.52
6					37.04			1.62				
7												
8									70.26		1.49	3.55
9									32.89			4.17
10									46.34			2.37
11									168.91			6.28
12												
13	25.00			.07								
14												
15	25.00			.34	222.22		37.04	16.74	107.63		2.99	7.43
16									2.99			.35
17												
18									2.99			.04
19	25.00			.14	296.30			2.13	61.29		4.48	1.72
20	50.00			10.27				.30	22.42	1.49	2.99	2.68
21	25.00			.62					26.91			2.18
22	25.00			.34	37.04			1.72	2.99			.09
23	25.00			.14					29.90			1.10
24	50.00			1.64					77.73		1.49	2.09
25	25.00			.62	37.04			1.93	23.92	7.47		2.56
26	25.00		25.00	1.09					7.47	1.49	1.49	1.52
27	25.00			.14					2.99			.11
28									1.49	1.49		.02
29									2.99	1.49		.28
30												
31					148.15			1.52	73.25			1.74
32	50.00			4.66	37.04			.30	23.92			.60
33	25.00			.48	111.11			.91	22.42	2.99		1.22
34					37.04			3.96	1.49			.17
35					37.04			6.19	29.90			.95
36									4.48		1.49	.40
37	50.00			.41					161.44		1.49	4.84
38	25.00			.07	259.26			2.74	7.47		1.49	.72
39									1.49			.11
40									4.48			.08
41	25.00			.27	74.07			5.48	222.72			6.95
42									2.99			.47
43									1.49			.24
44	50.00			.34	37.04			1.22	40.36			1.22
45									4.48		1.49	.69
46	25.00			.27	111.11			3.45	59.79	1.49	1.49	2.05
	700.00		25.00	23.42	1,814.82		37.04	45.26	1,795.21	26.91	19.43	84.99
	100.00			.89	222.22			10.15	337.82	1.49	2.99	11.80
	800.00		25.00	24.31	2,037.04		37.04	55.41	2,133.03	28.40	22.42	96.79

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Little Rock Barracks, Ark.				Mt. Vernon Barracks, Ala.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	19.23			1.69				
2	Other specific febrile and acute infectious diseases, including erysipelas	9.62			.34				
3	Malarial fevers and resulting conditions	567.31			6.82	128.57			2.58
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	163.46			1.63	185.71		14.29	6.42
6	Dysentery	38.46			1.13				
7	Other miasmatic diseases								
8	Gonorrhœa and results	57.69			2.74	28.57			1.76
9	Syphilis and results	86.54		9.62	3.61	14.29			.31
10	Other venereal diseases								
11	Vaccina	28.85			.53	42.86			.78
12	Other enthetic diseases					14.29			.16
13	Alcoholism	48.08			.45	114.29			1.17
14	Other dietic diseases								
15	Rheumatism, including muscular	57.69			5.95	42.86			1.80
16	Other constitutional diseases			9.62		14.29	14.29		.39
17	Developmental diseases					14.29	14.29	14.29	2.70
18	Parasitic diseases								
19	Headache and neuralgia	19.23			.63	100.00			2.62
20	Other diseases of the nervous system								
21	Diseases of the eye	9.62			.18				
22	Diseases of the ear	9.62			.05				
23	Catarrhs and common colds								
24	Bronchitis	38.46			.40				
25	Pneumonia	19.23			.66				
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system								
31	Tonsillitis	9.62			.05	14.29			.16
32	Dyspepsia, colic, and constipation	105.77			2.53	14.29			.04
33	Other diseases of the digestive system	57.69			2.42	28.57			.78
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	19.23		9.62	.47				
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	134.62			1.95	100.00			1.96
38	All other diseases	9.62			.11				
39	Heat stroke								
40	Frost-bite and general freezing	9.62			.05				
41	Contusions and sprains	105.77			1.84	100.00			2.62
42	Dislocations					14.29			.12
43	Fractures (not gunshot)	9.62			.68				8.18
44	Incised, lacerated, contused, and punctured wounds	38.46			.76	57.14			.91
45	Shot wounds								
46	All other injuries	67.31			.61	42.86			1.21
	Total for disease	1,509.61		28.85	34.35	857.14	28.57	28.57	23.64
	Total for injury	230.77			3.95	214.29			13.07
	Total for all causes	1,740.38		28.85	38.30	1,071.43	28.57	28.57	36.71

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Gulf Coast.				Fort Barrancas, Fla.				Jackson Barracks, La.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2	3.33			.13								
3	203.33	3.33		4.49	123.46			2.67	64.10			1.58
4												
5	63.33			.89	111.11			1.69	38.46			.27
6	13.33			.97					38.46			2.46
7												
8	40.00			3.05	24.69			1.15	12.82			.14
9	60.00		36.67	10.98					51.28			3.13
10	36.67			2.67	37.04			3.01	12.82			.67
11	3.33			.02					12.82			.07
12	3.33			.01								
13	63.33	3.33		.50	37.04			.14	166.67	12.82		1.41
14												
15	76.67		3.33	3.12	12.35			.07	64.10			.67
16												
17												
18												
19	50.00			.81	111.11			1.22	12.82			.07
20	13.33			.13	24.69			.20				
21	13.33		3.33	1.33	12.35		12.35	1.25				
22												
23	40.00			.35					141.03			.67
24	13.33			.52	37.04			1.35	12.82			.60
25												
26	10.00		6.67	1.10	37.04		24.69	4.06				
27	3.33			.06	12.35			.24				
28												
29			3.33	1.87								
30	3.33			.82	12.35			3.04				
31	10.00			.05	24.69			.10				
32	46.47		3.33	.61	86.42			1.01	51.28			1.02
33	50.00		3.33	1.67	74.07			3.21	38.46			.28
34	3.33			.16	12.35			.57				
35	10.00			.95								
36	3.33			.48					12.82			1.86
37	126.67			2.60	61.73			.85	64.10			2.88
38	13.33			2.37	37.04			3.75				
39	3.33			.02								
40												
41	133.33			4.39	111.11			3.25	64.10			1.05
42	3.33			.25								
43	6.67		3.33	.59								
44	46.67			1.22	24.69			1.12	25.64			.28
45	3.33			.03								
46	13.33			.26	12.35			.10				
	1,006.67	6.67	60.00	42.74	888.89		37.04	29.60	794.87	12.82		17.74
	210.00		3.33	6.76	148.15			4.46	89.74			1.72
	1,216.67	6.67	63.33	49.50	1,037.04		37.04	34.06	884.61	12.82		19.07

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	New Orleans, La.				Fort Brown, Tex.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas	125.00			4.79				
3	Malarial fevers and resulting conditions					348.48	7.58		7.66
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus					53.03			.83
6	Dysentery					7.58			.75
7	Other miasmatic diseases								
8	Gonorrhœa and results					68.18			6.14
9	Syphilis and results					106.06		83.33	23.10
10	Other venereal diseases	125.00			10.62	45.45			3.18
11	Vaccina								
12	Other enthetic diseases					7.58			.08
13	Alcoholism					22.73			.25
14	Other dietic diseases								
15	Rheumatism, including muscular	125.00			40.41	121.21		7.58	4.21
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia					37.88			1.05
20	Other diseases of the nervous system					15.15			.17
21	Diseases of the eye					22.73			2.26
22	Diseases of the ear								
23	Catarrhs and common colds					7.58			.39
24	Bronchitis								
25	Pneumonia								
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves							7.58	4.25
30	Other diseases of the circulatory system								
31	Tonsillitis					7.58			.04
32	Dyspepsia, colic, and constipation					22.73		7.58	.17
33	Other diseases of the digestive system					45.45		7.58	1.66
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)					22.73			2.16
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system					212.12			3.69
38	All other diseases					75.76			3.09
39	Heat stroke					7.58			.04
40	Frost-bite and general freezing								
41	Contusions and sprains					196.97			7.37
42	Dislocations					7.58			.56
43	Fractures (not gunshot)					15.15		7.58	1.35
44	Incised, lacerated, contused, and punctured wounds					75.76			1.93
45	Shot wounds					7.58			.06
46	All other injuries					22.73			.52
	Total for disease	375.00			55.82	1,250.00	7.58	113.64	65.11
	Total for injury					333.33		7.58	11.83
	Total for all causes	375.00			55.82	1,583.33	7.58	121.21	76.94

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	In the field, Gulf Coast.				Prairies.				Northern Group.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1					3.96	.25		.68				.08
2					12.36		.25	.48	2.97			.08
3					155.25	.25	.25	3.48	31.88			.81
4					1.73	.74		.27	.74			.11
5					152.29	.25		1.80	94.89			1.06
6					8.65			.64	1.48			.03
7												
8					28.68		.49	1.85	22.98		.74	1.42
9					27.44		3.71	3.05	9.64		2.22	1.10
10					14.09			1.02	5.19			.28
11					7.91			.19	2.22			.06
12					2.47			.04	2.22			.07
13					41.78			.36	44.48			.43
14												
15					84.05		1.73	1.41	84.51		.74	4.67
16					3.96		.74	.37	4.45			.20
17							.99				.74	
18					2.47			.02	1.48			.01
19					62.05			1.01	70.42			.87
20					9.89		3.46	1.25	5.93		2.22	2.20
21					19.04		.99	1.32	17.05		1.48	2.22
22					9.15		.74	.60	7.41		.74	.45
23					38.07			.53	33.36			.35
24					65.27			1.14	80.06			1.42
25					3.71	.99		.33	4.45	1.48		.49
26					1.48	.25	.99	.48	1.48		2.22	.41
27					2.47			.06	.74			.01
28					13.60		.49	.51	5.19			.49
29					7.17	.49	2.22	.76	2.22	.74	.74	.29
30					1.98		.74	.21	2.22		.74	.26
31					26.21			.65	43.74			.92
32					51.17			.53	53.37			.63
33					68.73		.99	1.92	57.08		.74	1.47
34					1.24	.25	.49	.10	.74	.74		.06
35					17.80		1.48	1.47	19.27		2.97	1.83
36					4.70		1.73	.45	6.67		2.22	.47
37					101.36		.25	3.02	85.25			3.31
38					24.47		.49	1.07	27.43			.82
39					4.45			.10	3.71			.19
40					8.16	.25		.37	13.34	.74		.27
41					141.90			3.83	155.67			3.31
42					2.47			.27	2.97			.28
43					5.44		.74	.88	5.93		1.48	1.24
44					55.38			1.81	65.97			2.06
45					4.70	.74	.25	.62	2.97			.53
46					44.50	.99	1.48	1.23	40.77	.74	1.48	1.13
					1,076.63	3.46	23.24	36.08	833.21	2.97	18.53	29.33
					267.00	1.98	2.47	9.11	291.33	1.48	2.97	8.99
					1,343.63	5.44	25.71	45.19	1,124.54	4.45	21.50	38.32

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Pembina, Dak.				Fort Totten, Dak.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas					16.13			.09
3	Malarial fevers and resulting conditions	47.62			.68	24.19			.18
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	238.10			1.60	48.39			.71
6	Dysentery								.13
7	Other miasmatic diseases								
8	Gonorrhœa and results	35.71			.75	24.19			.22
9	Syphilis and results					16.13		24.19	4.13
10	Other venereal diseases								
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	35.71			.10	16.13			.11
14	Other dietic diseases								
15	Rheumatism, including muscular	130.95			7.01	64.52			1.46
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	214.28			2.19	104.84			.62
20	Other diseases of the nervous system	11.90		11.90	.59				
21	Diseases of the eye	59.52		23.81	5.35				
22	Diseases of the ear	35.71			.29	8.06			.02
23	Catarrhs and common colds	273.81			1.86				
24	Bronchitis	47.62			.36	48.39			.53
25	Pneumonia								
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves					8.06	8.06	8.06	1.70
30	Other diseases of the circulatory system	11.90			.65				
31	Tonsillitis	11.90			.10	16.13			.31
32	Dyspepsia, colic, and constipation	95.24			2.71	32.26			.24
33	Other diseases of the digestive system	71.43			.85	24.19			.15
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	35.71		11.90	2.71	24.19		8.06	2.43
36	Diseases of the locomotor system (excluding muscular rheumatism)	11.90			2.02	8.06			.07
37	Diseases of the integumentary system	95.24			3.65	137.10			2.14
38	All other diseases	23.81			.13	48.39			1.70
39	Heat stroke								
40	Frost-bite and general freezing	35.71			.95				
41	Contusions and sprains	273.81			5.77	120.97			1.06
42	Dislocations	11.90			.72				
43	Fractures (not gunshot)	23.81			6.07				
44	Incised, lacerated, contused, and punctured wounds	107.14			1.86	56.45			1.77
45	Shot wounds					8.06			.91
46	All other injuries	47.62			.59	56.45			.80
	Total for disease	1,488.10		47.62	33.60	669.35	8.06	40.32	16.95
	Total for injury	500.00			15.95	241.94			4.53
	Total for all causes	1,988.10		47.62	49.55	911.29	8.06	40.32	21.48

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Sisseton, Dak.				Fort Buford, Dak.				Fort A. Lincoln, Dak.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2												
3	10.20			.14	35.97			.92				
4									8.85			1.20
5	51.02			.28	61.15			.52	79.65			.77
6												
7												
8					32.37			1.92	17.70			.58
9	20.41			1.85	17.99			1.82	8.85			.34
10									8.85			.20
11	20.41			.59								
12									8.85			.20
13					43.17			.55	106.19			.68
14												
15	71.43			2.04	93.52		3.60	6.24	79.65			4.07
16	10.20			.20	14.39			1.11				
17											8.85	
18												
19	71.43			.25	79.14			1.05	17.70			.05
20				9.78	3.60			.14				
21	10.20			.08	21.58			4.04	17.70			.10
22					3.60		3.60	1.27				
23	61.22			1.45	10.79			.07	53.10			.61
24	10.20			.08	43.17			1.18	35.40			.20
25	20.41			2.43	14.39	3.60		.81				.15
26									8.85		8.85	4.39
27												
28	10.20			.20	10.79			.15	8.85			.10
29	10.20			.39								
30									8.85		8.85	1.96
31	30.61			.28	39.57			.60	53.10			.75
32	91.84			1.59	25.18			.18	53.10			.20
33	122.45			2.07	35.97			1.84	44.25			1.62
34	10.20	10.20		.81								
35					17.99		3.60	3.08	17.70		8.85	2.98
36												
37	51.02			.45	68.34			2.21	106.19			6.93
38					7.19			.43	17.70			.34
39					3.60			.04				
40	40.82	10.20		.31	7.19			.47	17.70			.17
41	142.86			1.37	151.08			3.94	132.74			2.50
42												.23
43					7.19		7.19	2.95				
44	40.82			.36	53.96			1.80	70.80			2.42
45	20.41			4.53	3.60			.46				
46	30.61			1.09	28.78		7.19	2.38	26.55	8.85		.36
	683.67	10.20		24.97	679.86	3.60	10.79	30.14	761.06		35.40	28.39
	275.51	10.20		7.66	255.39		14.39	12.04	247.79	8.85		5.50
	959.18	20.41		32.63	935.25	3.60	25.18	42.18	1,008.85	8.85	35.40	33.89

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Yates, Dak.				Fort Bennett, Dak.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas					43.48			1.07
3	Malarial fevers and resulting conditions	70.63			1.13				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	115.24			1.37	43.48			.36
6	Dysentery								
7	Other miasmatic diseases								
8	Gonorrhœa and results	26.02			2.00				.77
9	Syphilis and results								
10	Other venereal diseases	11.15			.40				
11	Vaccina	3.72			.07				
12	Other enthetic diseases	3.72			.10				
13	Alcoholism	59.48			.31	21.74			.06
14	Other dietic diseases								
15	Rheumatism, including muscular	115.24			7.01	65.22			.71
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	14.87			.31				
20	Other diseases of the nervous system	7.43		7.43	3.40	21.74			3.57
21	Diseases of the eye	11.15			.40				
22	Diseases of the ear	3.72			.63				
23	Catarrhs and common colds	3.72			.02	86.96			.83
24	Bronchitis	141.26			1.80	86.96			5.72
25	Pneumonia		3.72		.66				
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								6.43
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system								
31	Tonsillitis	40.89			.92	86.96			1.61
32	Dyspepsia, colic, and constipation	66.91			.57	65.22			.77
33	Other diseases of the digestive system	26.02		3.72	.67	65.22			2.20
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	11.15			.47	21.74			1.43
36	Diseases of the locomotor system (excluding muscular rheumatism)	18.59		11.15	1.37	21.74			.06
37	Diseases of the integumentary system	85.50			5.31	43.48			2.74
38	All other diseases	11.15			.12				
39	Heat stroke	14.87			.92				
40	Frost-bite and general freezing	22.30			.28				
41	Contusions and sprains	148.70			3.64	108.70			4.05
42	Dislocations	11.15			1.06				
43	Fractures (not gunshot)	3.72			.59				
44	Incised, lacerated, contused, and punctured wounds	59.48			1.95	65.22			1.25
45	Shot wounds								
46	All other injuries	26.02			.34				
	Total for disease	847.58	3.72	22.30	29.04	673.92			28.35
	Total for injury	286.25			8.77	173.91			5.30
	Total for all causes	1,133.83	3.72	22.30	37.81	847.83			33.65

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Sully, Dak.				Fort Randall, Dak.				In the field, Northern Group. Prairies.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1								.34				
2												
3	12.05			.61	23.67			2.03				
4												
5	150.60			2.24	76.92			1.13				
6	12.05			.17								
7												
8	18.07			.36	23.67		5.92	3.53				
9	12.05			.17	5.92			1.28				
10					17.75			1.44				
11												
12					5.92			.08				
13	12.05			.13	71.00			1.18				
14												
15	12.05			3.70	100.59			3.08				
16					5.92			.52				
17												
18	6.02			.03	5.92			.03				
19	78.31			1.65	94.67			1.41				
20	12.05			3.84	5.92			1.17				
21	6.02			.07	29.59			7.57				
22	6.02			.07	17.75			.29				
23					11.83			.24				
24	168.67			3.07	65.08			1.25				
25												
26	6.02		6.02	.26			5.92	.05				
27	6.02			.12								
28	6.02			1.72	5.92			.06				
29	6.02			.86								
30	6.02			.41								
31	36.14			.94	88.76			2.58				
32	48.19			.21	53.25			.83				
33	132.53			2.84	53.25			1.44				
34												
35	30.12			1.20	23.67			2.24				
36	6.02			.53								
37	114.46			2.52	59.17			2.79				4.11
38	78.31			1.88	53.25			2.27				
39												
40	6.02			.17				.03				
41	162.65			2.19	165.68			4.85	500.00			2.74
42												
43	6.02			.83	11.83			.39				
44	60.24			1.96	a100.59			4.03				
45												
46	54.22			.68	82.84			2.19				
	981.93		6.02	29.61	899.41		11.83	38.84				4.11
	289.15			5.82	360.95			11.43	500.00			2.74
	1,271.08		6.02	35.43	1,260.36		11.83	50.27	500.00			6.85

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

Names of regions and military stations	*Middle Group.*				Rock Island Arsenal, Ill.			
Causes of admission to sick report.	*Admitted.*	*Died.*	*Discharged.*	*Constantly non-effective.*	Admitted.	Died.	Discharged.	Constantly non-effective.
1 Enteric fever	6.34	.49	.....	1.12	.....	.....	.....	.....
2 Other specific febrile and acute infectious diseases, including erysipelas	18.55	.....	.49	.73	.....	.....	.....	.....
3 Malarial fevers and resulting conditions	203.51	.49	.....	4.75	172.41	.....	.....	2.69
4 Typho-malarial fever	2.93	1.46	.....	.47	.....	.....	.....	.....
5 Diarrhœa, including cholera morbus	194.24	.49	.....	2.38	310.34	.....	.....	1.79
6 Dysentery	15.13	.....	.....	1.23	.....	.....	.....	.....
7 Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8 Gonorrhœa and results	22.94	.....	.....	1.52	17.24	.....	.....	1.23
9 Syphilis and results	38.56	.....	4.88	4.37	.....	.....	.....	.....
10 Other venereal diseases	19.03	.....	.....	1.51	.....	.....	.....	.....
11 Vaccina	14.15	.....	.....	.34	.....	.....	.....	.....
12 Other enthetic diseases	1.46	.....	.....	.02	.....	.....	.....	.....
13 Alcoholism	38.56	.....	.....	.30	17.24	.....	.....	.94
14 Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15 Rheumatism, including muscular	88.34	.....	2.93	4.44	34.48	.....	.....	.38
16 Other constitutional diseases	2.44	.....	.....	.32	17.24	.....	.....	3.12
17 Developmental diseases	.....	.....	.98	.....	.....	.....	.....	.....
18 Parasitic diseases	1.95	.....	.....	.01	.....	.....	.....	.....
19 Headache and neuralgia	63.93	.....	.....	1.21	103.45	.....	.....	1.27
20 Other diseases of the nervous system	10.74	.....	4.39	.66	.....	.....	.....	.....
21 Diseases of the eye	17.08	.....	.....	.80	.....	.....	.....	.....
22 Diseases of the ear	9.27	.....	.98	.78	.....	.....	.....	.....
23 Catarrhs and common colds	35.14	.....	.....	.50	137.93	.....	.....	.66
24 Bronchitis	68.81	.....	.....	1.12	103.45	.....	.....	1.32
25 Pneumonia	4.39	.98	.....	.34	.....	.....	.....	.....
26 Pulmonary phthisis	.98	.49	.49	.43	.....	.....	.....	.....
27 Pleuritis	1.95	.....	.....	.07	.....	.....	.....	.....
28 Other diseases of the respiratory system	20.99	.....	.98	.65	34.48	.....	.....	.47
29 Diseases of the heart and valves	6.34	.....	1.95	.79	.....	.....	.....	.....
30 Other diseases of the circulatory system	1.95	.....	.....	.21	17.24	.....	.....	.14
31 Tonsillitis	20.99	.....	.....	.64	.....	.....	.....	.....
32 Dyspepsia, colic, and constipation	56.61	.....	.....	.58	172.41	.....	.....	1.32
33 Other diseases of the digestive system	74.67	.....	1.46	1.99	172.41	.....	.....	1.18
34 Diseases of the kidneys	1.95	.....	.98	.15	.....	.....	.....	.....
35 Other diseases of the genito-urinary system (non-venereal)	15.13	.....	.98	1.19	68.97	.....	.....	1.37
36 Diseases of the locomotor system (excluding muscular rheumatism)	4.39	.....	1.95	.30	51.72	.....	.....	2.55
37 Diseases of the integumentary system	86.87	.....	.....	2.39	51.72	.....	.....	.76
38 All other diseases	26.35	.....	.98	1.42	34.48	.....	.....	.33
39 Heat-stroke	2.93	.....	.....	.02	.....	.....	.....	.....
40 Frost-bite and general freezing	7.32	.....	.....	.55	.....	.....	.....	.....
41 Contusions and sprains	122.99	.....	.....	3.94	51.72	.....	.....	.76
42 Dislocations	2.93	.....	.....	.35	.....	.....	.....	.....
43 Fractures (not gunshot)	5.37	.....	.49	.60	.....	.....	.....	.....
44 Incised, lacerated, contused, and punctured wounds	35.14	.....	.....	1.35	34.48	.....	.....	1.27
45 Shot wounds	5.37	.98	.49	.72	.....	.....	.....	.....
46 All other injuries	41.00	1.46	.98	1.05	51.72	.....	.....	1.70
Total for disease	1,196.68	4.39	24.40	39.75	1,517.24	.....	.....	20.60
Total for injury	223.04	2.44	1.95	8.58	137.93	.....	.....	3.73
Total for all causes	1,419.72	6.83	26.35	48.33	1,655.17	.....	.....	24.33

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Omaha, Neb.				Omaha, Neb., Headquarters.				Fort Leavenworth, Kans.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1				.21					10.00			1.71
2	2.43		2.43	1.05					43.33			.80
3	214.11			4.99	32.26			.80	96.67			2.87
4	2.43	2.43		.11								
5	257.91			2.38	32.26			.62	115.00			1.19
6									1.67			.01
7												
8	21.90			1.61					30.00			1.61
9	97.32		14.60	11.90					43.33		3.33	4.04
10	34.06			2.88					21.67			2.08
11									23.33			.73
12					32.26			.88				
13	99.76			.62	32.26			1.24	21.67			.21
14												
15	116.79		4.87	9.52					50.00		1.67	3.13
16	4.87			.34					1.67			.52
17											3.33	
18	2.43			.03					1.67			.01
19	92.46			.71					36.67			.33
20	7.30		2.43	1.77					10.00		1.67	.43
21	38.93			1.65					13.33			.38
22	21.90			3.03					8.33		3.33	.45
23	104.62			1.65					11.67			.13
24	124.09			2.61					65.00			.74
25	2.43			.35					8.33	1.67		.59
26	2.43	2.43		.45								
27									3.33			.03
28	12.17			1.74					18.33		1.67	.51
29	4.87		4.87	2.03					1.67			.02
30									3.33			.66
31	24.33			1.10	32.26			.88	6.67			.12
32	63.26			.69					31.67			.23
33	99.76		2.43	1.39	32.26			7.69	90.00		3.33	2.43
34									3.33			.35
35	7.30			.36					20.00			1.65
36	4.87		4.87	.43					3.33		1.67	.15
37	116.79			3.25					91.67			2.66
38	17.03			.76					46.67			1.94
39									5.00			.03
40	24.33			2.56					3.33			
41	155.72			5.81					115.00			3.48
42				.44					3.33			.36
43	9.73			.59					6.67			1.02
44	31.63			2.35	32.26			1.24	41.67			1.32
45									8.33	3.33		.59
46	38.93			1.05					26.67		1.67	.73
	1,598.54	4.87	36.50	59.61	193.55			19.00	933.33	1.67	20.00	32.71
	260.34			12.81	32.26			1.24	210.00	3.33	1.67	7.54
	1,858.88	4.87	36.50	72.42	225.81			20.24	1,143.33	5.00	21.67	40.25

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations.	Fort Leavenworth Prison, Kans.				Leavenworth City, Kans.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions	9.17			2.49	142.86			2.74
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	82.57			.53				
6	Dysentery	9.17			.02				
7	Other miasmatic diseases								
8	Gonorrhœa and results	18.35			.65				
9	Syphilis and results	9.17			.33				
10	Other venereal diseases	18.35			.63				
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	45.87			.28				
14	Other dictic diseases								
15	Rheumatism, including muscular	100.92			2.94	142.86			4.69
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	64.22			.58	142.86			3.52
20	Other diseases of the nervous system	27.52			.68				
21	Diseases of the eye								
22	Diseases of the ear								
23	Catarrhs and common colds								
24	Bronchitis	36.70			.98				
25	Pneumonia								
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves	9.17			.17				
30	Other diseases of the circulatory system								
31	Tonsillitis	9.17			.13				
32	Dyspepsia, colic, and constipation	174.31			1.91				
33	Other diseases of the digestive system	64.22			2.59				
34	Diseases of the kidneys	9.17			.23				
35	Other diseases of the genito-urinary system (non-venereal)	9.17			.30				
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	9.17			.02				
38	All other diseases								
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	9.17			.08				
42	Dislocations								
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds								
45	Shot wounds								
46	All other injuries	18.35			3.17				
	Total for disease	706.42			15.46	428.57			10.96
	Total for injury	27.52			3.24				
	Total for all causes	733.94			18.70	428.57			10.96

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Leavenworth, Kans., Headquarters.				Fort Riley, Kans.				Fort Gibson, Ind. T.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1					6.23	3.12		1.37	22.99			4.63
2					34.27			1.85				
3					133.96			1.66	344.83			15.37
4					3.12			.35	11.49			4.63
5	41.67			.34	277.26			4.41	172.41			2.39
6					65.42			6.75	34.48			.98
7												
8					24.92			1.67	57.47			7.21
9					9.35			1.23	34.48			1.45
10					6.23			.28	57.47			2.32
11					37.38			.59	11.49			.22
12	41.67			.23					11.49			.16
13					40.50			.40	22.99			.09
14												
15					56.07		6.23	2.54	114.94			1.54
16												
17												
18												
19	41.67			.34	65.42			1.78	103.45			.85
20					12.46		12.46	.21	57.47		34.48	1.32
21					21.81			1.99	11.49			.06
22					9.35			.21				
23					6.23			.05	103.45			2.24
24					74.77			.55	34.48			.38
25					6.23			.54				
26												
27					3.12			.32				
28			41.67		3.12			.02				
29					6.23			.67				
30									11.49			.33
31					68.54			1.76				
32					52.96			.56	68.97			1.28
33					46.73			1.01	45.98			2.01
34					3.12		3.12	.24				
35					12.46			1.38	22.99			3.65
36					6.23		3.12	.59				
37					68.54			1.64	91.95			1.61
38					12.46			.25	22.99		11.49	2.71
39												
40					6.23			.17				
41					127.73			3.02	149.43			2.83
42					6.23			.72				
43					3.12		3.12	.58	11.49			.88
44					28.04			1.28	68.97			1.29
45								.79	11.49			.41
46					21.81	3.12	3.12	.60	57.47	22.99		1.26
	125.00		41.67	.91	1,174.45	3.12	24.92	36.89	1,471.26		45.98	57.44
					193.15	3.12	6.23	7.18	298.85	22.99		6.67
	125.00		41.67	.91	1,367.60	6.23	31.15	44.07	1,770.11	22.99	45.98	64.11

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Sill, Ind. T.				In the field, Middle Group, Prairies.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	7.09			1.18	8.40			.12
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions	539.01	3.55		11.72	277.31			2.72
4	Typho-malarial fever	10.64	7.09		1.46				
5	Diarrhœa, including cholera morbus	134.75			3.21	436.97	8.40		3.84
6	Dysentery	10.64			.85	16.81			.09
7	Other miasmatic diseases								
8	Gonorrhœa and results	10.64			.59	8.40			.07
9	Syphilis and results	21.28		7.09	3.81				
10	Other venereal diseases	10.64			1.02				.16
11	Vaccina	7.09			.19				
12	Other enthetic diseases								
13	Alcoholism					25.21			.23
14	Other dietic diseases								
15	Rheumatism, including muscular	163.12		3.55	6.44	126.05			1.36
16	Other constitutional diseases	3.55			.10				
17	Developmental diseases								
18	Parasitic diseases	7.09			.05				
19	Headache and neuralgia	63.83			3.88	67.23			.76
20	Other diseases of the nervous system	3.55			.37				
21	Diseases of the eye	3.55			.10	16.81			.51
22	Diseases of the ear					16.81			.16
23	Catarrhs and common colds	7.09			.08	8.40			.02
24	Bronchitis	46.10			1.30	8.40			.09
25	Pneumonia	3.55	3.55		.10				
26	Pulmonary phthisis	3.55		3.55	2.48				
27	Pleuritis	3.55			.06				
28	Other diseases of the respiratory system	85.11			.98				
29	Diseases of the heart and valves	24.82		7.09	1.89				
30	Other diseases of the circulatory system								
31	Tonsillitis	14.18			.58	8.40			.12
32	Dyspepsia, colic, and constipation	39.01			.52	67.23			.39
33	Other diseases of the digestive system	67.38			3.24	16.81			.28
34	Diseases of the kidneys			3.55					
35	Other diseases of the genito-urinary system (non-venereal)	17.73		7.09	1.29				.51
36	Diseases of the locomotor system excluding muscular rheumatism)				.01				
37	Diseases of the integumentary system	85.11			2.30	142.86			3.27
38	All other diseases	35.46		3.55	3.69	8.40			.62
39	Heat stroke					25.21			.18
40	Frost-bite and general freezing	3.55			.07				
41	Contusions and sprains	166.67			6.91	117.65			3.15
42	Dislocations	3.55			.11	8.40			.41
43	Fractures not gunshot				.22	8.40			.46
44	Incised, lacerated, contused, and punctured wounds	31.91			.68	58.82			1.45
45	Shot wounds	17.73		3.55	2.92				
46	All other injuries	92.20			1.37	75.63			1.34
	Total for disease	1,429.08	14.18	35.46	53.52	1,260.50	8.40		15.31
	Total for injury	315.60		3.55	12.30	294.12			7.00
	Total for all causes	1,744.68	14.18	39.01	65.82	1,554.62	8.40		22.31

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Southern Group.				Fort Concho, Texas.				San Antonio Post, Texas.			
	Admitted.	*Died.*	*Discharged.*	*Constantly non-effective.*	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	4.64	.....	.....	.63	.....	.....	.....	.....	8.00	.....	.....	1.08
2	12.36	.....	.....	.60	11.63	.....	.....	.72	16.00	.....	.....	.70
3	259.66	.....	1.55	4.99	151.16	.....	.....	3.31	312.00	.....	2.67	6.49
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	139.10	.....	.....	1.55	145.35	.....	.....	2.28	149.33	.....	.....	1.34
6	3.09	.....	.....	.06	5.81	.....	.....	.03	.....	.....	.....	.....
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	58.73	.....	1.55	3.81	46.51	.....	.....	2.56	80.00	.....	2.67	5.40
9	29.37	.....	3.09	2.94	5.81	.....	5.81	3.06	48.00	.....	2.67	3.66
10	17.00	.....	.....	1.02	11.63	.....	.....	1.32	24.00	.....	.....	1.16
11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	6.18	.....	.....	.09	17.44	.....	.....	.29	2.67	.....	.....	.02
13	46.37	.....	.....	.42	34.88	.....	.....	.27	64.00	.....	.....	.61
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	69.55	.....	.....	3.89	133.72	.....	.....	5.02	50.67	.....	.....	3.94
16	7.73	.....	4.64	.62	.....	.....	.....	.....	13.33	.....	8.00	1.07
17	.....	.....	1.55	.....	.....	.....	.....	.....	.....	.....	2.67	.....
18	6.18	.....	.....	.06	11.63	.....	.....	.11	5.33	.....	.....	.04
19	38.64	.....	.....	.63	29.07	.....	.....	1.16	42.67	.....	.....	.47
20	15.46	.....	3.09	1.13	5.81	.....	.....	.75	16.00	.....	5.33	.96
21	29.37	.....	3.09	1.11	40.70	.....	5.81	1.32	26.67	.....	2.67	1.09
22	12.36	.....	.....	.34	11.63	.....	.....	.06	13.33	.....	.....	.49
23	57.19	.....	.....	.99	29.07	.....	.....	.24	85.33	.....	.....	1.59
24	23.18	.....	.....	.59	63.95	.....	.....	1.69	10.67	.....	.....	.25
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	3.09	.....	.....	.80	.....	.....	.....	.....	2.67	.....	.....	.60
27	7.73	.....	.....	.12	29.07	.....	.....	.45	.....	.....	.....	.....
28	7.73	.....	.....	.08	11.63	.....	.....	.08	8.00	.....	.....	.11
29	20.09	1.55	6.18	1.64	34.88	.....	5.81	4.17	18.67	2.67	8.00	.91
30	1.55	.....	3.09	.09	.....	.....	.....	.....	2.67	.....	5.33	.16
31	6.18	.....	.....	.14	.....	.....	.....	.....	8.00	.....	.....	.22
32	29.37	.....	.....	.15	58.14	.....	.....	.25	16.00	.....	.....	.09
33	74.18	.....	.....	2.65	104.65	.....	.....	2.29	74.67	.....	.....	2.46
34	.....	.....	.....	1.57	.....	.....	.....	.....	.....	.....	.....	.....
35	23.18	.....	.....	.....	40.70	.....	.....	1.69	8.00	.....	.....	.16
36	1.55	.....	.....	.86	5.81	.....	.....	1.32	.....	.....	.....	.98
37	180.84	.....	1.55	4.42	180.23	.....	.....	5.69	189.33	.....	2.67	4.28
38	12.36	.....	.....	.50	23.26	.....	.....	1.23	5.33	.....	.....	.25
39	10.82	.....	.....	.14	.....	.....	.....	.10	2.67	.....	.....	.13
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	173.11	.....	.....	4.57	325.58	.....	.....	5.97	136.00	.....	.....	4.87
42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
43	4.64	.....	.....	1.01	5.81	.....	.....	.94	5.33	.....	.....	1.31
44	97.37	.....	.....	2.78	232.56	.....	.....	6.72	58.67	.....	.....	1.54
45	6.18	1.55	.....	.56	5.81	.....	.....	.56	8.00	2.67	.....	.70
46	63.37	.....	3.09	1.99	93.02	.....	.....	1.64	58.67	.....	5.33	2.49
	1,204.02	1.55	29.37	38.49	1,244.19	.....	17.44	41.40	1,301.34	2.67	42.67	40.54
	355.49	1.55	3.09	11.05	662.79	.....	.....	15.93	269.33	2.67	5.33	11.05
	1,559.51	3.09	32.46	49.54	1,906.98	.....	17.44	57.33	1,570.67	5.33	48.00	51.59

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	San Antonio, Tex., Headquarters.				Camp Langtry, Tex.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions	66.67			.55	100.00			1.10
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus					150.00			2.60
6	Dysentery	33.33			1.10				
7	Other miasmatic diseases								
8	Gonorrhœa and results								
9	Syphilis and results								
10	Other venereal diseases								
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism								
14	Other dietic diseases								
15	Rheumatism, including muscular	33.33			4.29	50.00			.96
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	33.33			.37	50.00			.41
20	Other diseases of the nervous system	66.67			7.12				.82
21	Diseases of the eye	66.67			2.65				
22	Diseases of the ear	33.33			.91				
23	Catarrhs and common colds								
24	Bronchitis								
25	Pneumonia								
26	Pulmonary phthisis	33.33			9.77				
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system								
31	Tonsillitis	33.33			.27				
32	Dyspepsia, colic, and constipation	33.33			.37				
33	Other diseases of the digestive system	33.33			11.32				
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	166.67			23.01				
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system	100.00			3.20	250.00			4.79
38	All other diseases	33.33			.27				
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains					100.00			.96
42	Dislocations								
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds					50.00			1.51
45	Shot wounds								
46	All other injuries								
	Total for disease	766.67			65.21	600.00			10.68
	Total for injury					150.00			2.47
	Total for all causes	766.67			65.21	750.00			13.16

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	In the field, Southern Group, Prairies.			Great Plains.				Northern Group.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1					10.14	.89		1.12	.88	.44		.11
2					12.97	.15		.34	7.08	.44		.34
3	420.00			3.67	60.24	.30		2.29	29.63			1.15
4					.15			.03				
5	120.00			1.04	108.99	.15	.75	1.37	97.74		.88	.85
6					10.73			.46	3.10			.05
7					.30			.01	.44			.03
8					28.92		.30	1.52	29.19		.88	1.61
9					18.64		2.09	1.57	13.27		1.77	1.41
10					19.53		.15	1.09	23.88			1.54
11					6.56			.44	2.21			.06
12					3.13			.15	3.10			.06
13					47.56	.30	.15	.47	42.90			.42
14					1.49			.03	.88			.03
15	20.00			.55	92.59		3.28	3.45	116.32		5.31	3.84
16					4.17	.30	.89	.49	2.21	.44	.88	.33
17					.45		.60	.05	.44		.88	.05
18					3.88			.08	.44			.01
19	40.00			.16	61.73		.30	.89	76.51		.44	.87
20	20.00			.33	10.59	.30	2.53	.85	10.61		.88	.80
21					26.84		1.04	1.04	28.75		.88	.85
22					7.31		.60	.15	11.06		.88	.22
23					30.42			.42	58.38			.96
24					71.42	.15	1.19	1.56	85.36	.44	1.77	2.49
25					2.24	.75		.15	2.21	.88		.12
26					3.59	.45	2.24	.96	5.31	.44	3.54	.79
27					2.98		.15	.12	3.10			.08
28					1.32		.45	.14	4.42		.44	.16
29					6.71	.45	1.49	.39	11.50		.88	.49
30					1.34		.15	.18				
31					33.10			.49	40.69			.68
32	40.00			.11	60.24			.62	64.13			.71
33	20.00			.38	64.11	.75	1.34	1.71	73.42		1.77	1.55
34					2.68		.30	.37	1.33		.44	.16
35					13.12		1.34	.84	15.04		2.21	.88
36					5.96		1.79	.67	5.31		1.77	.79
37	140.00			1.70	81.11		.15	2.18	86.69			2.65
38	20.00			.16	23.56			.95	25.65			1.22
39	120.00			.44	1.34			.01	.44			.002
40					7.60		.15	.44	11.50			.81
41	60.00			1.75	149.40		.89	4.32	183.99		1.77	5.89
42					3.13		.15	.33	2.65			.38
43					8.95		.60	1.33	9.29		.88	1.58
44				.71	51.59	.15		1.63	49.98			1.82
45					7.75	1.49	.60	1.07	7.52	1.77	1.33	.67
46	60.00			1.48	35.93	.89	.75	.91	35.38		.88	.79
	840.00			8.11	943.79	4.92	23.26	29.29	983.19	3.10	26.54	28.39
	240.00			4.38	265.69	2.53	3.13	10.04	300.75	1.77	4.87	11.94
	1,080.00			12.49	1,209.48	7.45	26.39	39.33	1,283.94	4.87	31.40	40.33

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Assinniboine, Mont.				Camp Poplar River, Mont.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	5.05	2.53		.60				
2	Other specific febrile and acute infectious diseases, including erysipelas	10.10			.10				
3	Malarial fevers and resulting conditions	35.35			2.04	10.31			.08
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	106.06			.75	175.26			.51
6	Dysentery	2.53			.04				
7	Other miasmatic diseases								
8	Gonorrhœa and results	35.35			3.17	113.40			6.24
9	Syphilis and results	15.15		5.05	2.61				
10	Other venereal diseases	25.25			1.31	20.62			1.33
11	Vaccina	7.58			.14				
12	Other enthetic diseases	2.53			.01				
13	Alcoholism	58.08			.48	10.31			.08
14	Other dietic diseases	2.53			.09				
15	Rheumatism, including muscular	73.23			2.22	113.40			2.57
16	Other constitutional diseases	2.53		2.53	1.07				
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	68.18			.49	82.47			.93
20	Other diseases of the nervous system	15.15			1.09	10.31			.03
21	Diseases of the eye	58.08			1.98	10.31			.68
22	Diseases of the ear	10.10			.09	30.93			.42
23	Catarrhs and common colds	17.68			.13	41.24			.34
24	Bronchitis	47.98			.82	123.71			2.68
25	Pneumonia	2.53			.04				
26	Pulmonary phthisis	2.53		2.53	.24				
27	Pleuritis					30.93			.51
28	Other diseases of the respiratory system					10.31			.20
29	Diseases of the heart and valves	7.58			.21	61.86		10.31	2.26
30	Other diseases of the circulatory system								
31	Tonsillitis	17.68			.78	72.16			.85
32	Dyspepsia, colic, and constipation	50.51			.64	51.55			.17
33	Other diseases of the digestive system	85.86			1.52	144.33			2.43
34	Diseases of the kidneys	2.53		2.53	.53				
35	Other diseases of the genito-urinary system (non-venereal)	15.15			1.00	103.09		10.31	3.28
36	Diseases of the locomotor system (excluding muscular rheumatism)	7.58		2.53	.73				
37	Diseases of the integumentary system	68.18			3.30	185.57			5.42
38	All other diseases	75.76			3.56	20.62			.90
39	Heat stroke	2.53			.01				
40	Frost-bite and general freezing	7.58			.15	30.93			1.10
41	Contusions and sprains	101.01			2.16	195.88			4.72
42	Dislocations	2.53			.27				
43	Fractures (not gunshot)	5.05		2.53	.53	20.62			2.03
44	Incised, lacerated, contused, and punctured wounds	47.98			1.31	113.40			4.07
45	Shot wounds	2.53			.26	10.31			.59
46	All other injuries	25.25			.44	92.78		10.31	1.38
	Total for disease	934.34	2.53	15.15	31.76	1,422.68		20.62	31.91
	Total for injury	194.45		2.53	5.13	463.92		10.31	13.90
	Total for all causes	1,128.79	2.53	17.68	36.89	1,886.60		30.93	45.81

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Shaw, Mont.				Fort Maginnis, Mont.				Fort Keogh, Mont.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2	14.93			.60	18.02	9.01		3.28	8.24			.42
3					36.04			.72	5.49			.29
4												
5	79.60			.37	45.05			.32	60.44			.35
6												
7									2.75			.18
8	4.98			.33					16.48			.14
9					9.01			.10	10.99			.32
10					18.02			.74	5.49			.08
11	4.98			.18					2.75			.11
12	4.98			.16					5.49			.14
13	39.80			.35	9.01			.12	79.67			.50
14	4.98			.18								
15	74.63			3.35	63.06			1.41	123.63		2.75	1.60
16	4.98	4.98		.46					2.75			.47
17									2.75		2.75	.33
18									2.75			.03
19	39.80			.61	63.06			.30	85.16		2.75	.99
20	14.93			.71					13.74		2.75	.58
21	9.95			.33	18.02			.20	27.47		2.75	.20
22					27.03			.22	16.48		2.75	.69
23	9.95			.10	9.01			.37	2.75			.05
24	24.88			1.08	108.11			2.22	87.91		5.49	3.86
25												
26									2.75	2.75		.21
27												
28	9.95		4.98	.63					2.75			.05
29	19.90			.42					10.99			1.24
30												
31	24.88			.30					54.91			.84
32	74.63			.59	27.03			.37	38.46			.26
33	69.65			1.28	18.02			.10	49.45		2.75	1.38
34									2.75			.05
35					45.05			1.23	10.99		2.75	.46
36	4.98			3.61			9.01		2.75			.18
37	14.93			.20	90.09			.86	96.15			1.67
38	4.98			.42	36.04			.42	2.75			.04
39												
40	19.90			.34	27.03			2.47	2.75			2.91
41	139.30		4.98	11.22	198.20		9.01	7.73	241.76			5.16
42												.75
43					27.03			4.29	10.99			.75
44	34.83			1.62	63.06			1.58	63.19			1.70
45	4.98	4.98		.19	9.01	9.01		.89	5.49			.33
46	19.90			.38	45.05		9.01	.99	21.98			.41
	557.20	4.98	4.98	16.26	639.64	9.01	9.01	12.98	837.91	2.75	27.47	17.70
	218.91	4.98	4.98	13.66	369.37	9.01	18.02	17.95	346.16			12.02
	776.11	9.95	9.95	29.92	1,009.01	18.02	27.03	30.93	1,184.07	2.75	27.47	29.72

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Custer, Mont.				Fort Meade, Dak.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas	2.75			.12	6.49			.12
3	Malarial fevers and resulting conditions	35.81			2.58	54.11			.95
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	55.10		5.51	1.18	155.84			1.57
6	Dysentery								
7	Other miasmatic diseases								
8	Gonorrhœa and results	35.81		5.51	2.48	34.63			1.55
9	Syphilis and results	27.55			4.35	12.99		4.33	.57
10	Other venereal diseases	68.87			5.84	6.49			.23
11	Vaccina								
12	Other enthetic diseases	2.75			.06				
13	Alcoholism	13.77			.20	54.11			.84
14	Other dietic diseases								
15	Rheumatism, including muscular	110.19		19.28	4.37	203.46		6.49	7.97
16	Other constitutional diseases					4.33			.14
17	Developmental diseases			2.75					
18	Parasitic diseases								
19	Headache and neuralgia	19.28			.14	101.73			1.58
20	Other diseases of the nervous system	11.02		2.75	1.20	8.66			1.04
21	Diseases of the eye	13.77			.13	38.96		2.16	1.13
22	Diseases of the ear	11.02		2.75	.17	8.66			.14
23	Catarrhs and commoncolds	66.11			2.44	186.15			2.11
24	Bronchitis	8.26			2.45	186.15	2.16	2.16	2.64
25	Pneumonia	2.75	2.75		.13	4.33			.42
26	Pulmonary phthisis					19.48		15.15	3.24
27	Pleuritis	5.51			.14				
28	Other diseases of the respiratory system	5.51			.36				.07
29	Diseases of the heart and valves			2.75	.20	17.32			.44
30	Other diseases of the circulatory system								
31	Tonsillitis					67.10			.98
32	Dyspepsia, colic, and constipation	66.11			.97	108.22			1.39
33	Other diseases of the digestive system	35.81			1.15	114.72		6.49	2.29
34	Diseases of the kidneys					2.16			.31
35	Other diseases of the genito-urinary system (non-venereal)	8.26		2.75	.43	8.66		2.16	1.13
36	Diseases of the locomotor system (excluding muscular rheumatism)	2.75				6.49		2.16	1.04
37	Diseases of the integumentary system	99.17			3.53	86.58			2.59
38	All other diseases	19.28			2.00	6.49			.29
39	Heat stroke								
40	Frost-bite and general freezing	2.75			.20	21.65			.40
41	Contusions and sprains	110.19			3.01	281.39		2.16	10.01
42	Dislocations	5.51			1.15	4.33			.11
43	Fractures (not gunshot)	13.77		2.75	3.87	2.16			.07
44	Incised, lacerated, contused, and punctured wounds	41.32			2.26	49.78			1.99
45	Shot wounds	5.51			.34	17.32		6.49	2.13
46	All other injuries	24.79			.37	54.11			1.88
	Total for disease	727.27	2.75	44.08	36.61	1,504.33	2.16	41.13	36.77
	Total for injury	203.86		2.75	11.20	430.73		8.66	16.59
	Total for all causes	931.13	2.75	46.83	47.81	1,935.06	2.16	49.78	53.36

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort McKinney, Wyo.				In the field, Northern Group, Great Plains.				*Middle Group.*			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	*Admitted.*	*Died.*	*Discharged.*	*Constantly non-effective.*
1									21.06	1.85		2.20
2									21.06			.37
3	29.24			1.23	31.25			.11	66.86			2.25
4									.37			.06
5	140.35			.91	31.25			.40	114.89	.37	.37	1.29
6	17.54			.14	31.25			.86	11.08			.71
7												
8	29.24			.34					19.95			.89
9					31.25			1.86	11.45		1.85	.87
10	52.63			2.80	10.42			.23	9.24			.54
11									8.49			.13
12					20.83			.37	2.59			.25
13	29.24			.18					38.05	.37		.32
14									.37			.01
15	81.87		5.85	4.58	83.33			.86	80.53		2.96	3.56
16			5.85						5.17	.37	1.48	.42
17									.37		.37	.02
18									2.96			.09
19	216.37			2.28	10.42			.03	66.49		.37	1.13
20	5.85			.64					11.45		3.69	.76
21	23.39			2.05					23.27		1.11	1.49
22	5.85			.10					3.69			.07
23	29.24			.59	20.83			.40	19.58			.19
24	140.35		5.85	6.22					86.07		1.11	1.35
25	5.85	5.85		.14					2.59	1.11		.21
26	5.85			.70					2.59		1.48	1.38
27	11.70			.45					2.96			.09
28	11.70			.11	20.83			.26	4.80		.74	.13
29					10.42			.06	4.06	.37	1.85	.32
30									2.59			.30
31	99.42			1.71	52.08			.40	40.27			.51
32	70.18			.48	20.83			.09	45.44			.47
33	99.42			1.87	10.42			.97	56.15	.74	1.48	1.60
34									1.48		.37	.54
35	11.70		5.85	1.71					11.08		1.11	.77
36	11.70		5.85	1.35	10.42			.06	4.80		1.85	.41
37	140.35			5.00	31.25			.83	70.19		.37	1.67
38	58.48			1.52					12.93			.71
39												
40	5.85			.03					7.76		.37	.40
41	257.31		5.85	7.05	52.08			1.03	134.84		.74	3.97
42					10.42			.11	2.96		.37	.33
43	17.54			5.27	10.42			.71	6.28		.74	.84
44	23.39			1.52	41.67			.88	54.30			1.40
45	5.85	5.85		.02		10.42		.06	9.60	1.11	.37	1.72
46	35.09			.38	41.67			.66	36.57	.74	.37	1.05
	1,327.48	5.85	29.24	37.12	427.08			7.76	886.96	5.17	22.53	28.09
	345.03	5.85	5.85	14.28	156.25	10.42		3.46	252.31	1.85	2.96	9.70
	1,672.51	11.70	35.09	51.40	583.33	10.42		11.22	1,139.27	7.02	25.49	37.79

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Niobrara, Nebr.				Fort Robinson, Nebr.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					21.54	6.15		1.82
2	Other specific febrile and acute infectious diseases, including erysipelas	32.71			.36	83.08			1.28
3	Malarial fevers and resulting conditions	25.70			.31	30.77			.97
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	86.45			.94	107.69			.87
6	Dysentery					3.08			.78
7	Other miasmatic diseases								
8	Gonorrhœa and results	14.02			.63	33.85			2.61
9	Syphilis and results	4.67			.13	21.54		12.31	2.93
10	Other venereal diseases	4.67			.35	21.54			1.09
11	Vaccina	2.34			.02				
12	Other enthetic diseases				.54				
13	Alcoholism	16.36			.11	12.31			.14
14	Other dietic diseases								
15	Rheumatism, including muscular	84.11		7.01	3.18	80.00		6.15	3.78
16	Other constitutional diseases	18.69		7.01	1.77				
17	Developmental diseases	2.34		2.34	.14				
18	Parasitic diseases								
19	Headache and neuralgia	35.05			.28	76.92		3.08	1.58
20	Other diseases of the nervous system	4.67		2.34	.04	27.69		12.31	1.80
21	Diseases of the eye	9.35		2.34	.06	27.69			3.66
22	Diseases of the ear	2.34			.04	6.15			.19
23	Catarrhs and common colds	28.04			.40	3.08			.02
24	Bronchitis	28.04		7.01	1.29	76.92			1.33
25	Pneumonia					6.15	3.08		.11
26	Pulmonary phthisis	2.34			.46				.35
27	Pleuritis	2.34			.03	9.23			.51
28	Other diseases of the respiratory system	9.35		2.34	.22				
29	Diseases of the heart and valves	14.02		4.67	.68				
30	Other diseases of the circulatory system	9.35			.88	6.15			.62
31	Tonsillitis	25.70			.22	30.77			.35
32	Dyspepsia, colic, and constipation	23.36			.56	27.69			.29
33	Other diseases of the digestive system	9.35		4.67	.83	83.08			.99
34	Diseases of the kidneys					3.08			.06
35	Other diseases of the genito-urinary system (non-venereal)	11.68		2.34	1.16	3.08			.08
36	Diseases of the locomotor system (excluding muscular rheumatism)	9.35		4.67	.28	3.08			.03
37	Diseases of the integumentary system	60.75			1.31	46.15		3.08	1.02
38	All other diseases	4.67			.08	18.46			.77
39	Heat stroke								
40	Frost-bite and general freezing	16.36			.64	24.62			.44
41	Contusions and sprains	112.15			3.07	264.62		3.08	10.08
42	Dislocations								
43	Fractures (not gunshot)	2.34		2.34	1.39	6.15		3.08	.72
44	Incised, lacerated, contused, and punctured wounds	72.43			1.73	52.31			1.85
45	Shot wounds	11.68			1.59	15.38	3.08		2.26
46	All other injuries	28.04			.77	49.23			1.69
	Total for disease	581.78		46.73	17.30	870.77	9.23	36.92	30.03
	Total for injury	242.99		2.34	9.20	412.31	3.08	6.15	17.04
	Total for all causes	824.77		49.07	26.50	1,283.08	12.31	43.07	47.07

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Laramie, Wyo.				Fort D. A. Russell, Wyo.				Fort Sidney, Nebr.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	160.43			11.84	9.57	2.39		1.66	20.62			2.80
2	5.35			.07	11.96			.41	15.46			.24
3	16.04			1.17	78.95			3.20	61.86			1.03
4												
5	37.43			.28	110.05			.96	412.37			6.04
6									10.31			.32
7												
8				.19	14.35			.31	15.46			1.07
9					21.53			.85	5.15			.10
10					9.57			.33	25.77			3.11
11									51.55			.93
12					4.78			.60	5.15			.06
13	96.26	5.35		.86	38.28			.41	211.34			1.77
14												
15	53.48			.89	110.05		2.39	8.27	61.86			1.12
16												
17												
18					4.78			.04				
19	21.39			.19	71.77			.98	134.02			1.41
20	5.35			.50	4.78			.64	20.62			.66
21	16.04			.18	28.71			2.24	15.46			.24
22	10.70			.09	4.78			.18				
23					23.92			.25	10.31			.06
24	74.87			.65	40.67			.82	293.81			2.95
25	5.35			.15	2.39	2.39		.05	5.15			1.29
26					4.78		4.78	4.30				
27												
28	5.35		5.35	.53	2.39			.12	5.15			.03
29	5.35			.31	4.78	2.39	2.39	.43				
30												
31	21.39			.40	88.52			1.26				
32	26.74			.18	21.53			.13	118.56			.99
33	96.26		5.35	3.91	43.06	2.39		1.44	36.08			1.41
34									5.15		5.15	4.89
35					4.78		2.39	.20	15.46			.95
36	5.35		5.35	.67	4.78		2.39	1.32				
37	42.78			1.47	28.71			.66	61.86			.69
38	21.39			.29	2.39			.01	15.46			5.08
39												
40	10.70		5.35	3.15	4.78			.14				
41	74.87			2.14	78.95		2.39	1.75	144.33			3.22
42	5.35			.78	4.78		2.39	.68				
43	5.35			.19	2.39			.17	5.15			.96
44	32.09			.88	43.06			1.57	51.55			1.06
45		5.35			11.96			4.63	5.15			.07
46	26.74		5.35	.68	14.35			.23	30.93			.45
	727.27	5.35	16.04	24.79	796.65	9.57	14.35	32.05	1,634.02		5.15	39.23
	155.08	5.35	10.70	7.81	160.29		4.78	9.16	237.11			5.76
	882.35	10.70	26.74	32.60	956.94	9.57	19.14	41.21	1,871.13		5.15	44.99

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Hays, Kans.				Fort Lyon, Colo.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	40.82	6.80	.....	5.57	27.52	4.59	.....	5.06
2	Other specific febrile and acute infectious diseases, including erysipelas	.....	.....	.....	.....	9.17	.....	.....	.26
3	Malarial fevers and resulting conditions	34.01	.....	.....	.95	68.81	.....	.....	2.24
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	34.01	.....	6.80	1.55	119.27	.....	.....	.67
6	Dysentery	.....	.....	.....	.....	4.59	.....	.....	.70
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	6.80	.....	.....	.80	18.35	.....	.....	.16
9	Syphilis and results	20.41	.....	.....	1.57	13.76	.....	.....	.64
10	Other venereal diseases	.....	.....	.....	.....	9.17	.....	.....	.20
11	Vaccina	.....	.....	.....	.....	50.46	.....	.....	.64
12	Other enthetic diseases	6.80	.....	.....	.89	.....	.....	.....	.....
13	Alcoholism	6.80	.....	.....	.13	45.87	.....	.....	.20
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism, including muscular	81.63	.....	6.80	7.38	82.57	.....	.....	2.85
16	Other constitutional diseases	6.80	.....	6.80	.37	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	6.80	.....	.....	.26	.....	.....	.....	.....
19	Headache and neuralgia	27.21	.....	.....	.21	87.16	.....	.....	.79
20	Other diseases of the nervous system	6.80	.....	6.80	.11	13.76	.....	.....	1.13
21	Diseases of the eye	27.21	.....	.....	5.44	36.70	.....	.....	.29
22	Diseases of the ear	.....	.....	.....	.....	9.17	.....	.....	.04
23	Catarrhs and common colds	6.80	.....	.....	.04	59.63	.....	.....	.54
24	Bronchitis	156.46	.....	.....	1.71	41.28	.....	.....	.53
25	Pneumonia	6.80	6.80	.....	.15	4.59	.....	.....	.93
26	Pulmonary phthisis	20.41	.....	13.61	.45	.....	.....	.....	.....
27	Pleuritis	6.80	.....	.....	.06	.....	.....	.....	.....
28	Other diseases of the respiratory system	.....	.....	.....	.....	4.59	.....	.....	.04
29	Diseases of the heart and valves	.....	.....	.....	.....	4.59	.....	4.59	.43
30	Other diseases of the circulatory system	.....	.....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	54.42	.....	.....	.45	87.16	.....	.....	1.16
32	Dyspepsia, colic, and constipation	34.01	.....	.....	.13	73.39	.....	.....	.40
33	Other diseases of the digestive system	95.24	.....	6.80	2.96	128.44	.....	.....	1.65
34	Diseases of the kidneys	.....	.....	.....	.....	4.59	.....	.....	.88
35	Other diseases of the genito-urinary system (non-venereal)	6.80	.....	.....	2.70	18.35	.....	.....	.43
36	Diseases of the locomotor system (excluding muscular rheumatism)	.....	.....	.....	.....	4.59	.....	.....	.03
37	Diseases of the integumentary system	47.62	.....	.....	2.05	123.85	.....	.....	3.62
38	All other diseases	6.80	.....	.....	.02	13.76	.....	.....	.57
39	Heat stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	4.59	.....	.....	.04
41	Contusions and sprains	27.21	.....	.....	4.66	169.72	.....	.....	3.19
42	Dislocations	.....	.....	.....	.....	4.59	.....	.....	.54
43	Fractures (not gunshot)	.....	.....	.....	.....	9.17	.....	.....	.29
44	Incised, lacerated, contused, and punctured wounds	13.61	.....	.....	.17	22.94	.....	.....	.70
45	Shot wounds	13.61	.....	.....	1.92	13.76	.....	.....	.93
46	All other injuries	27.21	6.80	.....	.39	41.28	.....	.....	.74
	Total for disease	748.30	13.61	47.62	35.95	1,165.14	4.59	4.59	27.07
	Total for injury	81.63	6.80	.....	7.14	266.05	.....	.....	6.43
	Total for all causes	829.93	20.41	47.62	43.09	1,431.19	4.59	4.59	33.50

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Supply, Ind. T.				Fort Reno, Ind. T.				Fort Elliott, Tex.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2					6.64			.36	15.71			.19
3	67.92			4.98	222.59			5.90	31.41			.70
4					3.32			.48				
5	109.43			1.05	86.38			1.01	73.30			.82
6	41.51			1.64	39.87			3.01	10.47			.33
7												
8	22.64			.92	26.58			.34	47.12			2.21
9	7.55		3.77	.56	6.64			.58	10.47			1.49
10	3.77			.10	9.97			.32	5.24			.27
11									5.24			.07
12	11.32			.20								
13	3.77			.02					26.18			.23
14					3.32			.12				
15	52.83			1.01	112.96		3.32	3.54	52.36			.86
16	3.77			.06	6.64			.28	10.47	5.24		1.15
17												
18					6.64			.19	15.71			.63
19	90.57			1.26	93.02			1.10	15.71			4.10
20	22.64		3.77	.92	6.64		6.64	.85	5.24		5.24	1.12
21	33.96			1.59	29.90		6.64	1.64	10.47			.16
22	3.77			.05								
23	7.55			.07	29.90			.15				
24	26.42			1.12	192.69			2.96	57.59			.47
25												
26				1.55	3.32			3.81				
27	11.32			.20								
28					6.64			.25				
29					3.32		3.32	.85				
30	3.77			.87								
31	15.09			.26	36.54			.52	26.18			.23
32	56.60			.87	73.09			.92	47.12			.26
33	22.64			2.98	69.77			1.02	47.12	5.24		.75
34					3.32			1.03				
35	18.87			.31	9.27			1.78	31.41		5.24	1.10
36	7.55			.32	6.64		3.32	.68				
37	94.34			2.68	136.21			2.38	89.01			2.29
38	18.87			.31	19.93			1.01	20.94			.47
39												
40					3.32			.05				
41	116.98			3.06	209.30			5.03	89.01			3.03
42	3.77			.45	6.64			.68	5.24			.11
43	18.87			1.66	3.32			.89	15.71			1.88
44	86.79			2.00	69.77			1.73	68.06			.98
45	3.77			1.03	3.32			.50	15.71	5.24		1.03
46	60.38	3.77		2.35	59.80			.93	36.65			2.80
	758.49		7.55	25.91	1,252.49		23.26	36.99	654.45	10.47	10.47	19.91
	290.57	3.77		10.55	355.48			9.82	230.37	5.24		9.82
	1,049.06	3.77	7.55	36.46	1,607.97		23.26	46.81	884.82	15.71	10.47	29.73

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	In the field, Middle Group, Great Plains.				Southern Group.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					5.18			.75
2	Other specific febrile and acute infectious diseases, including erysipelas					8.05			.29
3	Malarial fevers and resulting conditions	30.30			.58	89.71	1.15		3.84
4	Typho-malarial fever				.58				.01
5	Diarrhœa, including cholera morbus	181.82	30.30		1.74	114.43		1.15	2.15
6	Dysentery	30.30			1.49	20.13			.61
7	Other miasmatic diseases					.58			.02
8	Gonorrhœa and results					42.55			2.39
9	Syphilis and results					36.80		2.88	2.86
10	Other venereal diseases					29.90		.58	1.24
11	Vaccina					9.20			.16
12	Other enthetic diseases					4.03			.10
13	Alcoholism					68.43	.58	.58	.76
14	Other dietic diseases					4.03			.04
15	Rheumatism, including muscular					80.51		1.15	2.77
16	Other constitutional diseases					5.18			.81
17	Developmental diseases					.58		.58	.10
18	Parasitic diseases					9.78			.17
19	Headache and neuralgia	60.61			1.33	35.08			.56
20	Other diseases of the nervous system					9.20	1.15	2.88	1.03
21	Diseases of the eye					29.90		1.15	.57
22	Diseases of the ear					8.05		1.15	.20
23	Catarrhs and common colds	90.91			.83	10.93			.09
24	Bronchitis					30.48		.58	.67
25	Pneumonia					1.73			.11
26	Pulmonary phthisis					2.88	1.15	1.73	.55
27	Pleuritis					2.88		.58	.24
28	Other diseases of the respiratory system	90.91			.50	3.45			.14
29	Diseases of the heart and valves					4.60	1.15	1.73	.34
30	Other diseases of the circulatory system					1.15		.58	.25
31	Tonsillitis					12.08			.21
32	Dyspepsia, colic, and constipation					78.21			.74
33	Other diseases of the digestive system					64.40	1.73	.58	.36
34	Diseases of the kidneys					6.33			.36
35	Other diseases of the genito-urinary system (non-venereal)					13.80		.58	.92
36	Diseases of the locomotor system (excluding muscular rheumatism)					8.63		1.73	.92
37	Diseases of the integumentary system					90.86			2.34
38	All other diseases					37.38			.96
39	Heat stroke					4.60			.04
40	Frost-bite and general freezing					2.30			.03
41	Contusions and sprains	121.21			3.24	127.08			2.83
42	Dislocations					4.03			.26
43	Fractures (not gunshot)				.42	12.65			1.80
44	Incised, lacerated, contused, and punctured wounds	30.30			.50	49.45	.58		1.69
45	Shot wounds			30.30	5.15	5.18	1.73		.60
46	All other injuries					35.65	2.30	1.15	.84
	Total for disease	484.84	30.30		7.06	981.02	6.90	20.13	32.32
	Total for injury	151.52		30.30	9.30	240.94	4.60	1.15	8.08
	Total for all causes	636.36	30.30	30.30	16.36	1,221.97	11.50	21.28	40.40

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Stanton, N. Mex.				Fort Bliss, Tex.				Fort Hancock, Tex.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	4.90			.75	43.48			7.41				
2					8.70			.43	47.62			1.79
3	4.90			.04	173.91			6.48	79.37			2.80
4												
5	14.71			.60	191.30			4.38	126.98			.83
6					34.78			.91	15.87			.26
7												
8	44.12			2.97					31.75			2.04
9	68.63		9.80	8.02	78.26			3.53	47.62			3.39
10	4.90			.21	34.78			1.29				1.00
11					8.70			.07				
12												
13	14.71	4.90		.23	26.09			.10	31.75			.26
14	4.90			.11								
15	14.71			2.24	69.57			1.83	63.49			.39
16				3.95								
17												
18	4.90			.04					31.75			.13
19	4.90			.03	69.57			.55	111.11			1.35
20		4.90	4.90	.90	8.70			.05	15.87			1.22
21	9.80			.56				.36	15.87			.09
22					34.78			1.19			15.87	
23												
24	19.61			1.87	52.17		8.70	2.17				.26
25				.32								
26					8.70		8.70	3.41		15.87		
27												
28					17.39			.12				1.78
29			4.90									
30												
31	14.71			.58	17.39			.17	15.87			.09
32	39.22			.82	17.39			.12	126.98			1.13
33	34.31			3.54	139.13	8.70		3.50	63.49			2.65
34					17.39			1.74				
35				.09								
36												
37	44.12			.87	86.96			1.26	111.11			2.96
38	19.61			.78	43.48			2.69				
39	4.90			.04	8.70			.07				
40	9.80			.17	8.70			.07				
41	107.84			3.13	191.30			1.88	222.22			6.26
42												
43												1.52
44	49.02			2.52	34.78			.83	31.75			1.35
45	4.90			3.95	8.70			.14				
46	9.80			.15	8.70	8.70		.07	31.75	15.87		.35
	367.65	9.80	19.61	29.53	1,182.61	8.70	17.39	43.74	936.51	15.87	15.87	22.57
	186.27			9.97	260.87	8.70		3.07	285.71	15.87		9.44
	553.92	9.80	19.61	39.50	1,443.48	17.39	17.39	46.81	1,222.22	31.75	15.87	33.01

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Davis, Tex.				Camp Pena Colorado, Tex.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	10.75			1.07				
2	Other specific febrile and acute infectious diseases, including erysipelas	3.58			.10	16.95			.65
3	Malarial fevers and resulting conditions	43.01			3.23	67.80			5.29
4	Typho-malarial fever				.03				
5	Diarrhœa, including cholera morbus	139.78		3.58	4.85	186.44			1.95
6	Dysentery	32.26			1.47				.14
7	Other miasmatic diseases								
8	Gonorrhœa and results	39.43			1.59	16.95			3.30
9	Syphilis and results	35.84			1.75	50.85		33.90	2.00
10	Other venereal diseases	64.52		3.58	1.75				.19
11	Vaccina	17.92			.33				
12	Other enthetic diseases					16.95			1.02
13	Alcoholism	28.67			.31	16.95			.05
14	Other dietic diseases								
15	Rheumatism, including muscular	35.84			1.22	67.80			.51
16	Other constitutional diseases					16.95			.23
17	Developmental diseases								
18	Parasitic diseases	7.17			.33				
19	Headache and neuralgia	25.09			.21	50.85			.46
20	Other diseases of the nervous system	25.09		3.58	3.25				
21	Diseases of the eye	75.27			.13	33.90			4.18
22	Diseases of the ear								
23	Catarrhs and common colds	3.58			.03	50.85			.23
24	Bronchitis	32.26			.30	33.90			.70
25	Pneumonia								
26	Pulmonary phthisis	3.58		3.58	.98				
27	Pleuritis	7.17			.09				
28	Other diseases of the respiratory system	3.58			.29				
29	Diseases of the heart and valves	3.58	3.58		.07	16.95			.79
30	Other diseases of the circulatory system				.88				
31	Tonsillitis	10.75			.09	16.95			.37
32	Dyspepsia, colic, and constipation	68.10			.39	16.95			.14
33	Other diseases of the digestive system	75.27	3.58		1.28	67.80			6.64
34	Diseases of the kidneys	3.58			.07	16.95			.23
35	Other diseases of the genito-urinary system (non-venereal)	14.34			.35				
36	Diseases of the locomotor system (excluding muscular rheumatism)					16.95			3.11
37	Diseases of the integumentary system	75.27			1.51	16.95			.23
38	All other diseases	3.58			.03	16.95			1.90
39	Heat stroke								
40	Frost-bite and general freezing	3.58			.02				
41	Contusions and sprains	86.02			1.50	237.29			5.06
42	Dislocations					50.85			4.41
43	Fractures (not gunshot)	17.92			3.26	16.95			4.59
44	Incised, lacerated, contused, and punctured wounds	46.59			.84	33.90			.37
45	Shot wounds	7.17			.05				
46	All other injuries	32.26	3.58		.63	16.95			.28
	Total for disease	888.89	7.17	14.34	28.00	813.56		33.90	34.36
	Total for injury	193.55	3.58		6.30	355.93			14.72
	Total for all causes	1,082.44	10.75	14.34	34.30	1,169.49		33.90	49.08

causes, and **Ratios** *per 1.000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Camp Del Rio, Tex.				Fort Clark, Tex.				Fort McIntosh, Tex.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2	50.85			.98	3.33			.16	13.25			.54
3	84.75			3.90	66.67			2.67	218.54	13.25		7.26
4												
5	101.69			.88	120.00			1.80	192.05			1.89
6					31.67			.79	13.25			.24
7												
8	16.95			2.32	38.33			1.17	92.72			7.07
9					25.00		1.67	2.68	59.60			2.94
10	16.95			.37	26.67			.99	33.11			2.16
11					13.33			.23	13.24			.24
12	16.95			.05	6.67			.13				
13	152.54			1.44	118.34		1.67	1.36	13.24			.09
14					10.00			.07				
15	135.59			3.57	121.67			2.06	132.45			7.67
16					11.67			.98				
17					1.67		1.67	.28				
18					11.67			.20	26.49			.38
19	50.85			.84	28.33			.33	72.85			1.81
20					6.67	1.67	5.00	.88	6.62			.05
21					26.67		3.33	.63	19.87			.18
22	16.95			.19	11.67			.25				
23	33.90			.28	20.00			.17	6.62			.07
24	33.90			.37	31.67			.57	52.98			.45
25					1.67			.12	6.62			.27
26					3.33		1.67	.41	6.62	6.62		.25
27					3.33		1.67	.21				
28	16.95			.09	3.33			.04				
29					3.33		3.33	.29	26.49			2.38
30	16.95		16.95	2.09								
31	50.85			.37	13.33			.25				
32	101.69			.46	126.67			1.17	66.23			.73
33	33.90			.33	56.67	1.67	1.67	.86	59.60			1.51
34					8.33			.58				
35	16.95			.33	20.00		1.67	1.29	46.36			4.55
36					11.67		3.33	.45	19.87			.13
37	84.75			1.08	115.00			3.55	125.83			3.92
38					58.33			.94	105.96			3.18
39					8.33			.08	6.62			.07
40												
41	186.44			6.45	116.67			3.07	158.94			2.79
42					6.67			.33				
43	67.80			8.73	18.33			1.93				
44	152.54			4.46	46.67	1.67		1.45	46.36			2.88
45	16.95	16.95		.09	5.00	3.33		.22				
46	33.90			2.46	41.67		1.67	.88	72.85		6.62	2.67
	1,033.90		16.95	19.92	1,156.67	3.33	26.67	28.49	1,430.46	19.87		49.97
	457.63	16.95		22.20	243.33	5.00	1.67	7.96	284.77		6.62	8.42
	1,491.53	16.95	16.95	42.12	1,400.00	8.33	28.33	36.45	1,715.23	19.87	6.62	58.39

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Ringgold, Tex.				Camp at Eagle Pass, Tex.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas	7.52			.29				
3	Malarial fevers and resulting conditions	172.93			10.73	89.29			2.84
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	15.04		7.52	.97	89.29			.83
6	Dysentery								
7	Other miasmatic diseases					17.86			.59
8	Gonorrhœa and results	75.19			5.99	17.86			1.13
9	Syphilis and results	7.52			.43				
10	Other venereal diseases	37.59			1.48	35.71			4.50
11	Vaccina								
12	Other enthetic diseases	7.52			.25				
13	Alcoholism	142.86			1.67	17.86			.05
14	Other dietic diseases								
15	Rheumatism, including muscular	60.15		15.04	8.45	35.71			.39
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases					17.86			.15
19	Headache and neuralgia	30.08			1.48				.20
20	Other diseases of the nervous system	15.04			.58				
21	Diseases of the eye	45.11			.97	17.86			.39
22	Diseases of the ear	15.04		7.52	.41				
23	Catarrhs and common colds								
24	Bronchitis								
25	Pneumonia					17.86			.10
26	Pulmonary phthisis								
27	Pleuritis					17.86			4.60
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves		7.52						
30	Other diseases of the circulatory system	7.52			.43				
31	Tonsillitis								
32	Dyspepsia, colic, and constipation	22.56			.10	35.71			1.08
33	Other diseases of the digestive system	90.22			6.16	53.57			.24
34	Diseases of the kidneys	15.04			.25				
35	Other diseases of the genito-urinary system (non-venereal)								
36	Diseases of the locomotor system (excluding muscular rheumatism)	22.56		7.52	2.99	17.86			13.01
37	Diseases of the integumentary system	45.11			.78	71.43			2.98
38	All other diseases					53.57			.44
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	97.74			1.40	125.00			2.15
42	Dislocations								
43	Fractures (not gunshot)	7.52			1.30				
44	Incised, lacerated, contused, and punctured wounds	52.63			2.00	71.43			1.71
45	Shot wounds	7.52			.49				
46	All other injuries	37.59	7.52		.78	17.86			.20
	Total for disease	834.58	7.52	37.59	44.41	607.14			33.51
	Total for injury	203.01	7.52		5.97	214.29			4.06
	Total for all causes	1,037.59	15.04	37.59	50.38	821.43			37.57

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	In the field, Southern Group, Great Plains.				Cordilleras.				Northern Group.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1					7.83	.37		1.05	3.22			.29
2					15.11	.19		.31	4.82			.16
3	400.00			3.56	71.80	.19	.19	2.02	53.86	.80		1.16
4					.93			.14				
5	100.00			.41	116.93	.19	.37	1.34	122.99			1.17
6					9.32	.56	.19	.43	4.02		.80	.22
7												
8	100.00			.55	23.50			1.26	20.90			1.58
9					17.90		3.91	1.57	11.25		2.41	1.04
10				.96	19.21			1.42	18.49			1.32
11					7.65			.14	7.23			.14
12					2.98			.06				
13					44.57	.19	.37	.53	47.43			.50
14					.75		.19	.01	2.41		.80	.05
15					89.89	.19	3.36	3.83	110.93		4.82	5.15
16	50.00				3.17	.19	.37	.22	3.22	.80		.32
17					.37		.19	.04				
18					.93			.01				
19				.14	63.41		.75	1.20	53.05		.80	.93
20					15.11	.74	3.73	1.27	7.23	.80	1.61	1.33
21					24.62		2.24	1.23	13.67		1.61	.59
22					4.28		.56	.35	6.43		.80	.83
23					23.12			.36	29.74			.73
24	150.00			.82	57.62		.74	1.47	91.64			2.59
25					3.73	1.30		.37	1.61			.07
26					4.48	.37	2.61	.83	5.63		4.82	1.83
27					2.05		.19	.17	1.61			.12
28					3.73	.19		.29	4.02			.06
29					6.34	1.12	1.12	.52	5.63	1.61	2.41	.53
30					1.31	.19	.37	.09	3.22		.80	.18
31					41.96		.19	.76	47.43			.75
32	50.00			.14	52.22		.19	1.05	42.60			1.23
33				.68	55.76	.56	1.86	1.82	45.82		3.22	1.33
34					2.42	.19	.37	.23	3.22			.54
35					15.48		1.68	1.18	16.88		3.22	1.77
36					7.46		2.24	.55	6.43		2.41	.35
37	350.00			3.84	56.32		.19	1.95	63.50			2.33
38				.41	31.89	.19	.75	1.50	19.29			.70
39					.75				.80			
40					2.42	.19		.08	4.02			.21
41					146.77		.19	3.81	167.20			4.93
42					1.86			.17	.80			.15
43					7.09	.19	.19	1.37	9.65			2.14
44				2.60	49.42		.37	1.72	55.45			1.77
45					3.92	1.68	1.12	.82	4.82	4.02	.80	.82
46	150.00			.96	38.79	1.12	1.68	1.19	40.19	1.61	2.41	1.00
	1,200.00			11.51	906.19	6.90	28.91	31.55	879.42	4.02	30.55	31.91
	150.00			3.56	251.03	3.17	3.54	9.17	282.95	5.63	3.22	11.03
	1,350.00			15.07	1,157.22	10.07	32.45	40.72	1,162.37	9.65	33.77	42.94

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Spokane, Wash.				Fort Sherman, Idaho.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas								.03
3	Malarial fevers and resulting conditions	48.58			1.66	39.68			.97
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	84.78			.60	51.59			.41
6	Dysentery					3.97			.17
7	Other miasmatic diseases								
8	Gonorrhœa and results	16.19			1.34	43.65			1.84
9	Syphilis and results	12.15		4.05	1.71	3.97			.50
10	Other venereal diseases	4.05			.27	23.81			.86
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism	20.24			.61	43.65			.59
14	Other dietic diseases								
15	Rheumatism, including muscular	137.65		4.05	6.78	99.21		15.87	5.12
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	36.44			.57	59.52			2.05
20	Other diseases of the nervous system	4.05	4.05	4.05	3.37	7.94			.35
21	Diseases of the eye	12.15			.42	3.97			.03
22	Diseases of the ear	8.10		4.05	1.91	3.97			.02
23	Catarrhs and common colds	4.05			.22	15.87			.22
24	Bronchitis	174.09			5.02	107.14			5.03
25	Pneumonia								
26	Pulmonary phthisis	8.10		4.05	1.40	7.94		11.90	1.77
27	Pleuritis					3.97			.29
28	Other diseases of the respiratory system				.04	3.97			.03
29	Diseases of the heart and valves	12.15			.30	7.94	3.97	7.94	1.08
30	Other diseases of the circulatory system								
31	Tonsillitis	52.83			.99	27.78			.43
32	Dyspepsia, colic, and constipation	36.44			3.45	51.59			1.63
33	Other diseases of the digestive system	32.39		4.05	1.59	51.59		7.94	1.45
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	20.24		4.05	3.38	3.97			.49
36	Diseases of the locomotor system (excluding muscular rheumatism)	8.10		4.05	.80	7.94			.42
37	Diseases of the integumentary system	56.68			1.54	71.43			2.72
38	All other diseases	8.10			.22	7.94			.13
39	Heat stroke								
40	Frost-bite and general freezing	8.10			.48	3.97			.10
41	Contusions and sprains	145.75			6.60	138.89			3.57
42	Dislocations	4.05			.19				
43	Fractures (not gunshot)	16.19			3.69	7.94			2.00
44	Incised, lacerated, contused, and punctured wounds	28.34			1.48	79.37			2.04
45	Shot wounds		4.05				3.97		
46	All other injuries	24.29	4.05		2.38	47.62			.84
	Total for disease	777.33	4.05	32.39	38.19	753.97	3.97	43.65	28.57
	Total for injury	226.72	8.10		14.82	277.78	3.97		8.55
	Total for all causes	1,004.05	12.15	32.39	53.01	1,031.75	7.94	43.65	37.12

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Missoula, Mont.				Fort Walla Walla, Wash.				Helena, Mont.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2					6.97			.08				
3					128.92	3.48		2.18				
4												
5	283.13			2.89	205.57			1.78				
6	12.05			.23								
7												
8	6.02			.31	6.97			.92				
9	12.05		6.02	1.29	13.94			1.06				
10												
11												
12												
13	156.63			1.22	24.39			.13				
14					6.97		3.48	.20				
15	216.87		6.02	12.41	69.69			1.88	1,000.00			52.05
16					3.48			.31				
17												
18												
19	120.48		6.02	1.91	27.87			.24	1,000.00			13.70
20	12.05			.94	3.48			.12	1,000.00			136.99
21	24.10		6.02	.45	13.94		3.48	1.56				
22					13.94			.35				
23	168.67			4.62								
24	120.48			2.38	48.78			.59				
25												
26					6.97		6.97	1.77				
27					3.48			.26				
28					10.45			.16				
29	6.02		6.02	1.80		3.48						
30	18.07			.45								
31	132.53			1.45	24.39			.63				
32	54.22			.51	13.94			.06				
33	24.10		6.02	1.27	48.78			.64				
34					3.48			.02				
35	30.12		6.02	3.25	10.45		3.48	.52				
36	6.02			.05			3.48					
37	60.24			.99	83.62			2.85				
38					13.94			.35				
39												
40												
41	246.99			6.85	174.22			5.02				
42				.81								
43					6.97			.98				
44	78.31			3.05	59.23			2.04				
45		6.02			6.97	6.97		1.10				
46	30.12		6.02	.18	55.75	3.48	6.97	1.15				
	1,463.86		42.17	38.42	794.42	6.97	20.91	18.68	3,000.00			202.74
	355.42	6.02	6.02	10.89	303.14	10.45	6.97	10.30				
	1,819.28	6.02	48.19	49.31	1,097.56	17.42	27.87	28.98	3,000.00			202.74

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Boise Barracks, Idaho.				Fort Washakie, Wyo.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					32.26			2.89
2	Other specific febrile and acute infectious diseases, including erysipelas	30.61			.48	8.06			1.06
3	Malarial fevers and resulting conditions	61.22			1.24	8.06			.18
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	30.61			.17	104.84			1.59
6	Dysentery					16.13		8.06	1.59
7	Other miasmatic diseases								
8	Gonorrhœa and results	30.61			3.08	32.26			2.85
9	Syphilis and results	10.20			.53	8.06			.80
10	Other venereal diseases					129.03			11.14
11	Vaccina	20.41			.34	56.45			1.15
12	Other enthetic diseases								
13	Alcoholism	91.84			.81				
14	Other dietic diseases								
15	Rheumatism, including muscular	91.84			1.59	72.58			2.98
16	Other constitutional diseases					8.06	8.06		.53
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	30.61			.17	32.26			.38
20	Other diseases of the nervous system					16.13		8.06	3.29
21	Diseases of the eye					40 32			.82
22	Diseases of the ear								3.67
23	Catarrhs and common colds	40.82			.34				
24	Bronchitis	40.82			.48	40.32			.73
25	Pneumonia	10.20			.64	8.06			.15
26	Pulmonary phthisis	10.20			9.92				
27	Pleuritis								
28	Other diseases of the respiratory system					8.06			.07
29	Diseases of the heart and valves	10.20			.14				
30	Other diseases of the circulatory system	10.20		10.20	1.57				
31	Tonsillitis	61.22			.84	32.26			.60
32	Dyspepsia, colic, and constipation	81.63			.67	56.45			.42
33	Other diseases of the digestive system	81.63			3.35	48.39			1.21
34	Diseases of the kidneys	10.20			1.73	16.13			3.98
35	Other diseases of the genito-urinary system (non-venereal)	10.20			.42	40.32			2.36
36	Diseases of the locomotor system (excluding muscular rheumatism)					16.13			.24
37	Diseases of the integumentary system	51.02			1.03	48.39			5.92
38	All other diseases	40.82			2.57	88.71			2.83
39	Heat stroke	10.20.			.06				
40	Frost-bite and general freezing					16.13			.99
41	Contusions and sprains	244.90			2.82	104.84			3.78
42	Dislocations								
43	Fractures (not gunshot)	30.61			7.13	8.06			2.19
44	Incised, lacerated, contused, and punctured wounds	51.02			.73	16.13			.18
45	Shot wounds	30.61		10.20	4.17	8.06			2.39
46	All other injuries	102.04			.78	8.06			.07
	Total for disease	857.14		10.20	32.09	967.74	8.06	16.13	53.42
	Total for injury	469.39		10.20	15.69	161.29			9.59
	Total for all causes	1,326.53		20.41	47.78	1,129.03	8.06	16.13	63.01

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Camp Sheridan, Wyo.				In the field, Northern Group, Cordilleras.				*Middle Group.*			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	*Admitted.*	*Died.*	*Discharged.*	*Constantly non-effective.*
1									8.82			1.02
2									32.02	.46		.64
3	19.23			.16				.64	55.22			.82
4									.46			.12
5	38.46			.11					95.13		.46	.82
6									3.71			.03
7												
8	19.23			3.90					13.46			.61
9	38.46		19.23	1.58					19.03		6.03	1.58
10									8.35			.55
11									1.86			.05
12									2.78			.07
13	19.23			.05					51.97	.46		.61
14	19.23			.05								
15	76.92			5.00					79.81	.46	4.18	3.11
16	38.46			4.70					3.25		.46	.08
17									.46		.46	.06
18									.93			.01
19	115.38			.68					78.89		.46	1.49
20									16.71	.93	4.64	1.36
21									32.95		2.78	1.49
22	19.23			.05					2.78		.46	.18
23									23.67			.24
24	19.23			.11					45.94		1.86	1.34
25									5.10	1.39		.52
26									3.25	.46	1.86	.37
27									1.86		.46	.23
28									2.78			.56
29				.11					6.50	.93	.46	.46
30									.93	.46		.01
31									51.04		.46	1.02
32	57.69			.42				1.29	44.55		.46	.48
33	76.92			.47					56.15	.93	.93	1.84
34									.46			.02
35	19.23		19.23	4.16					12.53		1.39	.84
36	19.23		19.23	1.79					5.57		2.78	.36
37	38.46			.26					54.76			1.56
38	19.23			1.58					50.58	.46	.93	1.83
39									.46			
40									3.71	.46		.08
41	173.08			5.48					134.57		.46	3.11
42									2.32			.26
43									7.42			.79
44	96.15			2.63					44.55		.93	1.60
45									4.18	.46	.93	.85
46									34.80	.46	.46	1.18
	653.85		57.69	25.29				1.92	874.24	6.96	31.55	26.40
	269.23			8.11					232.02	1.39	2.79	7.87
	923.08		57.69	33.40				1.92	1,106.26	8.35	34.34	34.27

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Klamath, Oreg.				Fort Bidwell, Cal.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas					8.55			.09
3	Malarial fevers and resulting conditions	63.83			1.28				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	21.28			.52	34.19			.09
6	Dysentery	85.11			.47				
7	Other miasmatic diseases								
8	Gonorrhœa and results								
9	Syphilis and results					8.55		8.55	1.59
10	Other venereal diseases					17.09			1.43
11	Vaccina					25.64			.16
12	Other enthetic diseases								
13	Alcoholism	21.28			.06	8.55			.05
14	Other dietic diseases								
15	Rheumatism, including muscular	63.83		21.28	1.63	34.19			.47
16	Other constitutional diseases					8.55			.16
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	42.55		21.28	2.16	25.64			.16
20	Other diseases of the nervous system	42.55			2.80	68.38			2.08
21	Diseases of the eye	42.55		21.28	3.56	42.74			3.82
22	Diseases of the ear	21.28			3.96				
23	Catarrhs and commoncolds								
24	Bronchitis	42.55			.47	51.28		8.55	2.88
25	Pneumonia								
26	Pulmonary phthisis					8.55		8.55	.35
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves					8.55			.05
30	Other diseases of the circulatory system								
31	Tonsillitis					42.74			.66
32	Dyspepsia, colic, and constipation	42.55			.17	59.83			.59
33	Other diseases of the digestive system	63.83			2.62	59.83			.70
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)								
36	Diseases of the locomotor system (excluding muscular rheumatism)	21.28		42.55	2.27	17.09			3.00
37	Diseases of the integumentary system				.58	51.28			1.31
38	All other diseases					59.83			.54
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	21.28			.06	153.85			1.87
42	Dislocations								.12
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds					17.09			.09
45	Shot wounds								
46	All other injuries	42.55			.35	25.64			.09
	Total for disease	574.47		106.38	22.56	641.03		25.64	20.18
	Total for injury	63.83			.41	196.58			2.18
	Total for all causes	638.30		106.38	22.97	837.61		25.64	22.36

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort McDermit, Nev.				Fort Bridger, Wyo.				Fort Douglas, Utah.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	25.00			.96					16.00			1.80
2									18.67	2.67		.78
3	50.00			1.10	95.24			1.19	5.33			.22
4												
5	50.00			.14	41.67			.19	154.67			1.42
6												
7												
8									24.00			1.79
9					17.86			.68	21.33		13.33	2.63
10									10.67			1.04
11												
12					5.95			.03	5.33			.26
13					17.86			.10	120.00			.96
14												
15					89.29			7.63	96.00		5.33	3.18
16									2.67			.01
17												
18									2.67			.01
19	25.00			.07	101.19			6.51	120.00			2.33
20					5.95		5.95	1.01	8.00			.97
21	25.00			.48	5.95			.02	56.00		5.33	2.20
22					11.90			.05	8.00			.35
23					17.86			.19				
24	25.00			.07	35.71			.52	34.67		2.67	1.26
25									5.33			.34
26					5.95		5.95	.90	2.67	2.67		.67
27												
28					5.95			.65	2.67			.11
29					23.81			.90				
30	25.00			1.23								
31	50.00			.27	83.33			1.06	69.33			1.80
32	100.00			.55	23.81			.10	32.00			.39
33	150.00		25.00	9.38	29.76	5.95		1.08	50.67			.66
34												
35									21.33			1.97
36					5.95		5.95	.02	10.67		2.67	.43
37	75.00			1.51	53.57			.75	61.33			2.24
38	50.00			.55	5.95			.05	160.00		2.67	5.81
39												
40												
41	50.00			.27	107.14		5.95	2.15	154.67			4.32
42									5.33			.45
43	25.00			2.67	5.95			.68				
44	50.00			.21	101.19		5.95	3.52	26.67		2.67	2.01
45												
46	25.00			.07	35.71		5.95	1.19	48.00			1.56
	650.00		25.00	16.30	684.52	5.95	17.86	23.63	1,120.00	5.33	32.00	35.65
	150.00			3.22	250.00		17.86	7.55	234.67		2.67	8.34
	800.00		25.00	19.52	934.52	5.95	35.71	31.18	1,354.67	5.33	34.67	43.99

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort DuChesne, Utah.				Fort Crawford, Colo.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever								
2	Other specific febrile and acute infectious diseases, including erysipelas	13.45			.86				
3	Malarial fevers and resulting conditions	53.81			1.11	72.29			.59
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	112.11		4.48	1.52	48.19			.33
6	Dysentery	13.45			.16				
7	Other miasmatic diseases								
8	Gonorrhœa and results	4.48			.22	24.10			.43
9	Syphilis and results	35.87		26.91	2.17	24.10		12.05	1.52
10	Other venereal diseases	4.48			.28				
11	Vaccina								
12	Other enthetic diseases	4.48			.10				
13	Alcoholism	31.39			.26				
14	Other dietic diseases								
15	Rheumatism, including muscular	71.75			3.70	36.14		12.05	5.48
16	Other constitutional diseases	13.45		4.48	.43				
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	22.42			.10	48.19			1.91
20	Other diseases of the nervous system	17.94		13.45	1.83				
21	Diseases of the eye	17.94			1.70	24.10		12.05	1.98
22	Diseases of the ear								
23	Catarrhs and common colds	40.36			.28	12.05			.10
24	Bronchitis	44.84			1.03	48.19			.46
25	Pneumonia	4.48			.21				
26	Pulmonary phthisis	4.48		4.48	.39				
27	Pleuritis				.11				
28	Other diseases of the respiratory system					12.05			12.25
29	Diseases of the heart and valves	4.48		4.48	.36				
30	Other diseases of the circulatory system								
31	Tonsillitis	35.87			.75	132.53			1.39
32	Dyspepsia, colic, and constipation	13.45			.06	60.24			.17
33	Other diseases of the digestive system	67.26			1.07	24.10			1.25
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	17.94		4.48	.57	12.05			.13
36	Diseases of the locomotor system (excluding muscular rheumatism)	4.48			.04				
37	Diseases of the integumentary system	76.23			1.24	72.29			.69
38	All other diseases	17.94			2.08	36.14			.20
39	Heat stroke	4.48			.02				
40	Frost-bite and general freezing	17.94	4.48		.42				
41	Contusions and sprains	121.08			2.72	60.24			2.38
42	Dislocations								
43	Fractures (not gunshot)	4.48			.04				
44	Incised, lacerated, contused, and punctured wounds	80.72			3.19	84.34			.63
45	Shot wounds	8.97	4.48		.60	24.10		12.05	10.89
46	All other injuries	17.94			.31	60.24	12.05		1.72
	Total for disease	748.88		62.78	22.52	686.75		36.14	28.88
	Total for injury	255.60	8.97		7.40	228.91	12.05	12.05	15.61
	Total for all causes	1,004.48	8.97	62.78	29.92	915.66	12.05	48.19	44.49

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Lewis, Colo.				Fort Union, N. Mex.				Fort Wingate, N. Mex.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	6.78			1.19								
2	3.39			.07	152.73			1.94				
3	30.51			.82	7.27			.18	190.77			2.26
4	3.39			.89								
5	16.95			.42	65.45			.47	160.00			.74
6												
7												
8	10.17			.27	10.91			.78	21.54			.52
9	13.56			.78	18.18			2.45	21.54			1.30
10	10.17			.62	3.64			.09	12.31			.25
11									3.08			.30
12	3.39			.14	3.64			.01				
13	30.51			.27	94.55	3.64		1.75	43.08			.30
14												
15	81.36		3.39	2.77	50.91			1.81	89.23		6.15	2.11
16	6.78			.20								
17	3.39		3.39	.46								
18									3.08			.02
19	27.12			.62	65.45			.97	156.92			1.21
20	20.34		6.78	2.80	25.45	3.64	7.27	2.25	6.15		6.15	.36
21	23.73			1.06	14.55			.33	49.23		6.15	1.80
22												
23	13.56			.08					101.54			1.20
24	57.63		3.39	3.50	3.64			.01	52.31		3.08	1.22
25	13.56	3.39		1.14	7.27	3.64		1.77				
26									9.23		3.08	.81
27	3.39			.85	3.64			.05				
28	10.17			.14				.02				
29	13.56	6.78		.59					9.23			1.48
30	3.39			.09								
31	111.86			1.19	10.91		3.64	1.57	12.31			.43
32	54.24			.64	36.36			.46	49.23			.72
33	94.92	3.39		3.67	7.27			.46	67.69		3.08	2.67
34									3.08			.11
35	3.39		3.39	.09	21.82			.96	15.38		3.08	1.58
36	3.39			.16					6.15		3.08	.30
37	71.19			2.64	43.64			2.11	43.08			.95
38	47.46			1.19	18.18	3.64		1.21	12.31		3.08	.72
39												
40	3.39			.02								
41	135.59			4.13	105.45			1.99	215.38			4.43
42	3.39			.27	3.64			1.01				
43	10.17			1.25	18.18			1.91	9.23			.59
44	33.90			1.27	43.64			1.28	36.92			1.15
45	10.17			1.63					3.08		3.08	.28
46	27.12			.91	32.73			.56	21.54			.74
	793.22	13.56	20.34	29.37	665.45	14.55	10.91	21.66	1,138.46		36.92	23.32
	223.73			9.49	203.64			6.75	286.16		3.08	7.19
	1,016.95	13.56	20.34	38.86	869.09	14.55	10.91	28.41	1,424.62		40.00	30.51

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Marcy, N. Mex.				Camp Pilot Butte, Wyo.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					103.45			11.87
2	Other specific febrile and acute infectious diseases, including erysipelas	62.50			1.13	57.47			1.89
3	Malarial fevers and resulting conditions	37.50			.31				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	37.50			.31	160.92			1.89
6	Dysentery	12.50			.14				
7	Other miasmatic diseases								
8	Gonorrhœa and results	37.50			.75				
9	Syphilis and results	25.00			1.64				
10	Other venereal diseases	37.50			3.53				
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism					68.97			2.42
14	Other dietic diseases								
15	Rheumatism, including muscular	75.00	12.50	12.50	2.16	183.91		11.49	4.98
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	137.50			.79	34.48			.19
20	Other diseases of the nervous system	12.50	12.50		.45	11.49			.03
21	Diseases of the eye	75.00			.75				
22	Diseases of the ear							11.49	.60
23	Catarrhs and common colds								
24	Bronchitis	112.50			1.23	91.95			1.29
25	Pneumonia	12.50	12.50		.14	11.49			1.23
26	Pulmonary phthisis								
27	Pleuritis	12.50		12.50	2.40				
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves					11.49			.56
30	Other diseases of the circulatory system						11.49		
31	Tonsillitis	37.50			.41				
32	Dyspepsia, colic, and constipation	150.00			1.20	34.48		11.49	1.07
33	Other diseases of the digestive system	75.00			.72	45.98			5.48
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	25.00			1.61				
36	Diseases of the locomotor system (excluding muscular rheumatism)			12.50					
37	Diseases of the integumentary system	12.50			.10	45.98			1.13
38	All other diseases	25.00			1.44	80.46			1.83
39	Heat stroke								
40	Frost-bite and general freezing					11.49			.06
41	Contusions and sprains	125.00			2.77	91.95			2.30
42	Dislocations	12.50			.17				
43	Fractures (not gunshot)					11.49			4.47
44	Incised, lacerated, contused, and punctured wounds	62.50			1.61	11.49			.25
45	Shot wounds					11.49			2.58
46	All other injuries	75.00			2.36	45.98			7.34
	Total for disease	1,012.50	37.50	37.50	21.20	942.53	11.49	34.48	36.40
	Total for injury	275.00			6.92	183.91			17.01
	Total for all causes	1,287.50	37.50	37.50	28.12	1,126.44	11.49	34.48	53.41

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Camp Medicine Butte, Wyo.				Camp near Denver, Colo.				In the field, Middle Group, Cordilleras.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1									47.62			6.1
2					285.71			3.91	47.62			.78
3									95.24			1.70
4												
5									571.43			5.61
6												
7												
8					71.43			2.35				
9					71.43			3.33				
10												
11												
12												
13												
14												
15	200.00			9.86	285.71			7.44	47.62			2.48
16												
17												
18												
19					71.43			1.17	47.62			.13
20	200.00			6.03								
21									95.24			6.26
22												
23					71.43			.20				
24					357.14			3.52				
25												
26												
27									47.62			1.17
28												
29												
30												
31					71.43			.98				
32					71.43			.20	47.62			.39
33	200.00			.55	71.43			.59				
34												
35												
36												
37									95.24			3.29
38												
39												
40									95.24			3.52
41	200.00			1.10	142.86			2.35	47.62			1.04
42												
43									47.62			.13
44				7.12								
45												
46									95.24			.91
	600.00			16.44	1,428.57			23.68	1,142.86			27.92
	200.00			8.22	142.86			2.35	285.71			5.61
	800.00			24.66	1,571.43			26.03	1,428.57			33.53

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Southern Group.				Fort Mojave, Ariz.			
	Causes of admission to sick report.	*Admitted.*	*Died.*	*Discharged.*	*Constantly non-effective.*	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	9.68	1.02	.....	1.54	.....	.....	.....	.....
2	Other specific febrile and acute infectious diseases, including erysipelas	3.06	.....	.....	.05	20.41	.....	.....	.28
3	Malarial fevers and resulting conditions	101.37	.....	.51	3.88	20.41	.....	.....	.06
4	Typho-malarial fever	2.04	.....	.....	.24	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	137.03	.51	.51	2.01	102.04	.....	.....	.67
6	Dysentery	18.85	1.53	.....	.99	20.41	.....	.....	.45
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	36.17	.....	.....	1.76	40.82	.....	.....	2.80
9	Syphilis and results	20.89	.....	2.55	1.90	142.86	.....	20.41	8.89
10	Other venereal diseases	31.58	.....	.....	2.42	.....	.....	.....	.....
11	Vaccina	14.26	.....	.....	.22	.....	.....	.....	.....
12	Other enthetic diseases	5.09	.....	.....	.08	.....	.....	.....	.....
13	Alcoholism	34.64	.....	1.02	.47	122.45	.....	.....	1.51
14	Other dietic diseases	.51	.....	.....	.01	.....	.....	.....	.....
15	Rheumatism, including muscular	87.62	.....	1.53	3.79	142.86	.....	.....	3.02
16	Other constitutional diseases	3.06	.....	.51	.31	.....	.....	.....	.....
17	Developmental diseases	.51	.....	.....	.05	.....	.....	.....	.....
18	Parasitic diseases	1.53	.....	.....	.03	.....	.....	.....	.....
19	Headache and neuralgia	52.98	.....	1.02	1.06	.....	.....	.....	.....
20	Other diseases of the nervous system	18.34	.51	4.08	1.15	20.41	.....	.....	1.63
21	Diseases of the eye	22.41	.....	2.04	1.30	.....	.....	.....	.....
22	Diseases of the ear	4.58	.....	.51	.23	.....	.....	.....	.....
23	Catarrhs and common colds	18.34	.....	.....	.25	61.22	.....	.....	.78
24	Bronchitis	48.90	.....	.....	.90	.....	.....	.....	.....
25	Pneumonia	3.57	2.04	.....	.40	.....	.....	.....	.....
26	Pulmonary phthisis	5.09	.51	2.04	.70	20.41	.....	20.41	3.30
27	Pleuritis	2.55	.....	.....	.14	.....	.....	.....	.....
28	Other diseases of the respiratory system	4.58	.51	.....	.14	.....	.....	.....	.....
29	Diseases of the heart and valves	6.62	1.02	1.02	.58	.....	.....	.....	.....
30	Other diseases of the circulatory system	.51	.....	.51	.11	.....	.....	.....	.....
31	Tonsillitis	28.53	.....	.....	.49	20.41	.....	.....	.45
32	Dyspepsia, colic, and constipation	66.73	.....	.....	1.56	20.41	.....	.....	.17
33	Other diseases of the digestive system	61.64	.51	2.04	2.09	.....	.....	.....	.34
34	Diseases of the kidneys	4.08	.51	1.02	.27	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal)	17.83	.....	1.02	1.18	20.41	.....	.....	.22
36	Diseases of the locomotor system (excluding muscular rheumatism)	10.19	.....	1.53	.88	.....	.....	.....	.....
37	Diseases of the integumentary system	53.49	.....	.51	2.14	40.82	.....	.....	.22
38	All other diseases	19.35	.....	1.02	1.65	20.41	.....	.....	.11
39	Heat stroke	1.02	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	147.22	.....	.....	3.87	61.22	.....	.....	.50
42	Dislocations	2.04	.....	.....	.08	.....	.....	.....	.....
43	Fractures (not gunshot)	5.09	.51	.51	1.52	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds	50.94	.....	.....	1.83	20.41	.....	.....	.22
45	Shot wounds	3.06	1.53	1.53	.79	.....	.....	.....	.....
46	All other injuries	42.28	1.53	2.55	1.33	61.22	.....	.....	1.29
	Total for disease	958.23	8.66	24.96	36.99	836.73	.....	40.82	24.88
	Total for injury	251.65	3.57	4.59	9.42	142.86	.....	.....	2.01
	Total for all causes	1,209.88	12.23	29.55	46.41	979.59	.....	40.82	26.89

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Whipple Barracks, Ariz.				Fort Verde, Ariz.				Fort Apache, Ariz.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2									10.53			.26
3	39.11			.75	38.46			1.21	15.79			.87
4												
5	44.69			.58	76.92			.84	42.11			.23
6				1.30					15.79			.55
7												
8	22.35			1.30					15.79			.72
9					57.69		38.46	8.80				.26
10									10.53			.50
11									5.26			.07
12												
13	16.76			.18					15.79			.13
14												
15	44.69		11.17	2.63	269.23			7.43	115.79			3.89
16												
17												
18									5.26			.16
19	5.59		5.59	1.85	38.46			1.05	78.95			1.14
20	50.28		16.76	7.25	19.23		19.23	5.95	5.26		5.26	1.08
21	22.35			.64	19.23			.21	31.58		5.26	2.05
22									10.53			.27
23	5.59			.06					126.32			1.67
24	55.87			1.01	134.62			1.37	21.05			.56
25												
26	11.17		5.59	1.29					5.26			.43
27												
28												
29	11.17		5.59	1.10								
30			5.59	.67								
31	16.76			.29	19.23			.05				
32	22.35			.31	96.15			1.05	78.95			1.46
33	22.35		11.17	5.80	38.46			1.00	73.68	5.26		1.98
34					19.23			.37				
35	11.17			.96	19.23			.47	15.79			.76
36	5.59			.05			19.23	2.48	26.32			3.14
37	27.93			.98	38.46			1.42	52.63			7.07
38	5.59			.32	19.23			1.00	10.53			.75
39					19.23			.05				
40												
41	78.21			4.13	211.54			4.37	89.47			3.50
42												
43					19.23			2.63				2.16
44	27.93			1.13	38.46			1.63	42.11			1.38
45										5.26		.43
46	11.17			.44	38.46			1.37	47.37			2.67
	441.34		61.45	29.34	903.84		76.92	34.73	789.47	5.26	10.53	29.99
	117.31			5.71	326.92			10.06	178.95	5.26		10.15
	558.65		61.45	35.05	1,230.76		76.92	44.79	968.42	10.53	10.53	40.14

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort McDowell, Ariz.				San Carlos, Ariz.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					9.17			.75
2	Other specific febrile and acute infectious diseases, including erysipelas	10.75			.29				
3	Malarial fevers and resulting conditions	32.26			1.44	55.05			4.90
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	204.30		10.75	4.56	229.36			3.19
6	Dysentery	53.76			3.71	91.74	9.17		2.01
7	Other miasmatic diseases								
8	Gonorrhœa and results								
9	Syphilis and results	10.75			.91	36.70			2.16
10	Other venereal diseases					9.17			.15
11	Vaccina					9.17			.23
12	Other enthetic diseases	32.26			.24				
13	Alcoholism	21.51			.50				
14	Other dietic diseases								
15	Rheumatism, including muscular	129.03			4.60	64.22			2.89
16	Other constitutional diseases	10.75			.97	18.35			1.33
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	64.52			.41	119.27			1.58
20	Other diseases of the nervous system	53.76	10.75		.44	18.35			.13
21	Diseases of the eye	21.51		10.75	.15	9.17			.18
22	Diseases of the ear					9.17			.10
23	Catarrhs and common colds	10.75			.06	27.52			.28
24	Bronchitis	64.52			.85	128.44			2.81
25	Pneumonia	10.75			2.27	18.35	9.17		1.18
26	Pulmonary phthisis					9.17			1.18
27	Pleuritis					18.35			.38
28	Other diseases of the respiratory system	10.75			.35	18.35	9.17		.20
29	Diseases of the heart and valves	21.51			.38				
30	Other diseases of the circulatory system								
31	Tonsillitis	32.26			.44	27.52			.63
32	Dyspepsia, colic, and constipation	10.75			.03	73.39			.93
33	Other diseases of the digestive system	107.53			3.42	36.70			.75
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal)	43.01			.53	36.70			2.19
36	Diseases of the locomotor system (excluding muscular rheumatism)	10.75			.03				
37	Diseases of the integumentary system	86.02			2.12	36.70			1.03
38	All other diseases	32.26			3.18	27.52			.83
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	139.78			2.95	45.87			1.78
42	Dislocations								
43	Fractures (not gunshot)		10.75		.38				
44	Incised, lacerated, contused, and punctured wounds	10.75			.06	45.87			2.06
45	Shot wounds					18.35	9.17		1.46
46	All other injuries	53.76			1.53	82.57			3.54
	Total for disease	1,086.02	10.75	21.50	31.90	1,137.62	27.52		32.00
	Total for injury	204.30	10.75		4.92	192.65	9.17		8.84
	Total for all causes	1,290.32	21.50	21.50	36.82	1,330.27	36.70		40.84

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Thomas, Ariz.				Fort Bayard, N. Mex.				Fort Selden, N. Mex.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	64.94	6.49	.....	12.79	6.64	.....	.....	.93	.....	.....	.....	.....
2	6.49	.....	.....	.05	3.32	.....	.....	.03	.....	.....	.....	.....
3	194.81	.....	.....	14.27	83.06	.....	.....	3.00	209.30	.....	.....	1.91
4	.....	.....	.....	2.31	.....	.....	.....	.....	.....	.....	.....	.....
5	285.71	.....	.....	3.17	63.12	.....	.....	1.45	23.26	.....	.....	.13
6	.....	.....	.....	.....	.....	.....	.....	.....	23.26	.....	.....	.25
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	6.49	.....	.....	.14	13.29	.....	.....	.57	.....	.....	.....	.....
9	25.97	.....	.....	1.35	9.97	.....	6.64	1.65	.....	.....	.....	.....
10	12.99	.....	.....	.34	6.64	.....	.....	1.07	.....	.....	.....	.....
11	32.47	.....	.....	.11	53.16	.....	.....	.52	23.26	.....	.....	.19
12	.....	.....	.....	.....	3.32	.....	.....	.01	23.26	.....	.....	.13
13	51.95	.....	6.49	.73	56.48	.....	3.32	.40	93.02	.....	.....	.57
14	.....	.....	.....	.....	3.32	.....	.....	.14	.....	.....	.....	.....
15	58.44	.....	.....	1.44	43.19	.....	.....	1.57	279.07	.....	.....	14.46
16	.....	.....	.....	.....	3.32	.....	.....	.07	23.26	.....	.....	3.12
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19	116.88	.....	.....	1.71	23.26	.....	.....	.76	186.05	.....	.....	2.04
20	.....	.....	.....	.....	9.97	.....	.....	.13	46.51	.....	.....	.13
21	38.96	.....	.....	4.87	16.61	.....	3.32	.70	.....	.....	.....	.....
22	.....	.....	.....	.....	6.64	.....	.....	.50	.....	.....	.....	.....
23	.....	.....	.....	.....	.....	.....	.....	.....	23.26	.....	.....	1.21
24	84.42	.....	.....	1.39	9.97	.....	.....	.08	209.30	.....	.....	3.06
25	6.49	6.49	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....
26	.....	.....	.....	1.30	.....	.....	.....	.....	69.77	.....	46.51	8.92
27	6.49	.....	.....	.39	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	9.97	.....	.....	.12	46.51	.....	.....	.51
29	.....	.....	.....	.....	.....	3.32	.....	.....	46.51	.....	.....	.45
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
31	.....	.....	.....	.....	56.48	.....	.....	.82	23.26	.....	.....	.96
32	331.17	.....	.....	10.69	26.58	.....	.....	.32	69.77	.....	.....	.64
33	32.47	.....	.....	2.17	69.77	.....	3.32	1.59	232.56	.....	.....	2.68
34	19.48	.....	6.49	2.85	.....	.....	.....	.....	.....	.....	.....	.....
35	6.49	.....	.....	.05	19.93	.....	.....	.87	.....	.....	.....	.....
36	.....	.....	.....	.....	9.97	.....	3.32	.16	23.26	.....	.....	.25
37	32.47	.....	.....	.80	29.90	.....	.....	.84	69.77	.....	.....	2.04
38	51.95	.....	.....	6.17	6.64	.....	.....	.36	46.51	.....	.....	5.29
39	.....	.....	.....	.....	3.32	.....	.....	.02	.....	.....	.....	.....
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	162.34	.....	.....	2.94	142.86	.....	.....	2.39	93.02	.....	.....	.76
42	.....	.....	.....	.....	6.64	.....	.....	.32	.....	.....	.....	.....
43	.....	.....	.....	.....	3.32	.....	3.32	2.08	23.26	.....	.....	1.83
44	58.44	.....	.....	.94	43.19	.....	.....	2.82	46.51	.....	.....	.70
45	6.49	.....	.....	1.10	6.64	.....	.....	.17	.....	.....	.....	.....
46	38.96	.....	.....	.41	19.93	3.32	6.64	.84	23.26	.....	.....	.25
	1,467.53	12.99	12.99	69.15	644.52	3.32	19.93	18.68	1,790.70	.....	46.51	48.92
	266.24	.....	.....	5.39	225.91	3.32	9.97	8.64	186.05	.....	.....	3.57
	1,733.77	12.99	12.99	74.54	870.43	6.64	29.90	27.32	1,976.75	.....	46.51	52.50

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Fort Grant, Ariz.				Fort Bowie, Ariz.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	5.03			.89	20.00	6.67		1.53
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions	241.21		5.03	6.90	26.67			.73
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	185.93			3.81	73.33			.75
6	Dysentery	35.18	5.03		2.68	6.67			.09
7	Other miasmatic diseases								
8	Gonorrhœa and results	105.53			5.27	26.67			.60
9	Syphilis and results	40.20			4.14				
10	Other venereal diseases	130.65			13.41	66.67			5.15
11	Vaccina	5.03			.06				
12	Other enthetic diseases					6.67			.04
13	Alcoholism					13.33			.40
14	Other dietic diseases								
15	Rheumatism, including muscular	85.43			5.22	46.67			1.37
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	55.28			1.12	60.00		6.67	1.31
20	Other diseases of the nervous system					26.67		6.67	.46
21	Diseases of the eye	30.15			2.22	20.00			.38
22	Diseases of the ear					6.67			.05
23	Catarrhs and common colds								.18
24	Bronchitis	70.35			2.09	33.33			
25	Pneumonia	5.03	5.03		1.29				
26	Pulmonary phthisis	5.03	5.03		.85				
27	Pleuritis				.55	6.67			.22
28	Other diseases of the respiratory system					6.67			1.08
29	Diseases of the heart and valves					13.33			1.04
30	Other diseases of the circulatory system								
31	Tonsillitis	95.48			1.93				
32	Dyspepsia, colic, and constipation	15.08			.10	66.67			.47
33	Other diseases of the digestive system	85.43			2.23	26.67			.18
34	Diseases of the kidneys					6.67	6.67		.05
35	Other diseases of the genito-urinary system (non-venereal)	10.05		5.03	4.16				
36	Diseases of the locomotor system (excluding muscular rheumatism)	5.03			.21	33.33		6.67	4.51
37	Diseases of the integumentary system	30.15			2.31	60.00		6.67	2.26
38	All other diseases					13.33			3.25
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	301.51			8.37	160.00			3.38
42	Dislocations	5.03			.21				
43	Fractures (not gunshot)				2.05				
44	Incised, lacerated, contused, and punctured wounds	115.58			4.65	86.67			2.96
45	Shot wounds			5.03	2.48	6.67	6.67		.49
46	All other injuries	40.20	5.03		.98	46.67			.57
	Total for disease	1,241.20	15.08	10.05	61.41	666.67	13.33	26.67	26.14
	Total for injury	462.32	5.03	5.03	18.74	300.00	6.67		7.39
	Total for all causes	1,703.52	20.10	15.08	80.15	966.67	20.00	26.67	33.53

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Lowell, Ariz.				Fort Huachuca, Ariz.				In the field, Southern Group, Cordilleras.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	.....	.....	.....	.....	3.95	.....	.....	.57	20.83	.....	.....	2.85
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	174.83	.....	.....	7.99	130.44	.....	.....	2.26	62.50	.....	.....	4.22
4	20.98	.....	.....	.31	3.95	.....	.....	.31	.....	.....	.....	.....
5	132.87	.....	.....	.86	260.87	.....	.....	3.98	62.50	20.83	.....	.47
6	41.96	.....	.....	.94	11.86	3.95	.....	1.20	.....	.....	.....	.47
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	132.87	.....	.....	6.28	51.38	.....	.....	2.74	.....	.....	.....	.63
9	34.96	.....	.....	2.61	19.76	.....	.....	2.10	20.83	.....	.....	.80
10	83.92	.....	.....	2.95	27.67	.....	.....	1.55	.....	.....	.....	.11
11	.....	.....	.....	.....	11.86	.....	.....	.82	.....	.....	.....	.....
12	13.99	.....	.....	.57	7.91	.....	.....	.15	.....	.....	.....	.....
13	62.94	.....	.....	1.11	55.34	.....	.....	.94	.....	.....	.....	.....
14	.....	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....
15	118.88	.....	6.99	4.89	94.86	.....	.....	6.33	62.50	.....	.....	2.09
16	.....	.....	6.99	.....	3.95	.....	.....	.86	.....	.....	.....	.....
17	.....	.....	.....	.....	3.95	.....	.....	.40	.....	.....	.....	.....
18	.....	.....	.....	.....	7.91	.....	.....	.13	.....	.....	.....	.....
19	34.96	.....	.....	.21	31.62	.....	.....	.67	20.83	.....	.....	1.37
20	41.96	.....	6.99	.48	7.91	.....	3.95	.48	.....	.....	.....	.....
21	34.96	.....	6.99	3.16	19.76	.....	.....	.40	.....	.....	.....	.....
22	.....	.....	.....	.....	11.86	.....	3.95	.89	.....	.....	.....	.....
23	6.99	.....	.....	.02	7.91	.....	.....	.04	.....	.....	.....	.....
24	69.93	.....	.....	1.42	.....	.....	.....	.....	20.83	.....	.....	.28
25	.....	.....	.....	.....	7.91	3.95	.....	.74	.....	.....	.....	.....
26	6.99	.....	.....	.10	.....	.....	.....	.....	.....	.....	.....	.....
27	.....	.....	.....	.....	3.95	.....	.....	.10	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	6.99	6.99	.....	.04	15.81	.....	3.95	2.84	.....	.....	.....	.....
30	6.99	.....	.....	.65	.....	.....	.....	.....	.....	.....	.....	.....
31	6.99	.....	.....	.04	27.67	.....	.....	.41	.....	.....	.....	.....
32	139.86	.....	.....	4.85	7.91	.....	3.95	.05	.....	.....	.....	.11
33	76.92	.....	.....	2.22	59.29	.....	.....	1.88	83.33	.....	.....	.63
34	20.98	.....	6.99	.52	.....	.....	.....	.....	.....	.....	.....	.....
35	34.96	.....	6.99	1.76	19.76	.....	.....	1.25	20.83	.....	.....	.28
36	.....	.....	.....	.....	7.91	.....	.....	.76	20.83	.....	.....	.23
37	104.89	.....	.....	2.66	106.72	.....	.....	2.49	.....	.....	.....	.40
38	27.97	.....	.....	.73	35.57	.....	7.91	2.88	.....	.....	.....	.....
39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	223.78	.....	.....	7.47	138.34	.....	.....	3.73	62.50	.....	.....	1.71
42	.....	.....	.....	.....	.....	.....	.....	.....	20.83	.....	.....	.28
43	13.99	.....	.....	6.13	15.81	.....	.....	1.52	20.83	.....	.....	.57
44	34.96	.....	.....	.36	47.43	.....	.....	1.26	20.83	.....	.....	.68
45	.....	.....	.....	.....	.....	.....	7.91	2.01	.....	.....	.....	.....
46	48.95	6.99	6.99	.65	71.14	.....	7.91	2.62	.....	.....	.....	.17
	1,440.56	6.99	41.96	47.42	1,067.19	7.90	23.72	40.18	395.83	20.83	.....	14.84
	321.68	6.99	6.99	14.62	272.73	.....	15.81	11.13	125.00	.....	.....	3.43
	1,762.24	13.98	48.95	62.04	1,339.92	7.90	39.53	51.31	520.83	20.83	.....	18.27

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Pacific Coast.				Northern Group.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	3.70			.49				.03
2	Other specific febrile and acute infectious diseases, including erysipelas	11.73			.58	25.04			1.09
3	Malarial fevers and resulting conditions	53.09			1.60	80.13			2.02
4	Typho-malarial fever	.62			.09				
5	Diarrhœa, including cholera morbus	49.38			.55	58.43			.87
6	Dysentery	11.11			.30				
7	Other miasmatic diseases								
8	Gonorrhœa and results	22.22			1.73	31.72			2.64
9	Syphilis and results	21.60		4.94	1.43	21.70		3.34	1.24
10	Other venereal diseases	13.58			1.06	8.35			.37
11	Vaccina	8.64			.19	3.34			.26
12	Other enthetic diseases	1.85			.01	1.67			.01
13	Alcoholism	51.23			.70	68.45			1.01
14	Other dietic diseases								
15	Rheumatism, including muscular	72.22		4.32	4.32	101.84		6.68	5.35
16	Other constitutional diseases	3.09		.62	.14	1.67			.10
17	Developmental diseases	.62		2.47	.03				
18	Parasitic diseases	.62			.01				
19	Headache and neuralgia	43.21			1.04	55.09			1.61
20	Other diseases of the nervous system	8.64	.62	1.23	.81	11.69			.48
21	Diseases of the eye	14.81		1.85	.84	20.03		1.67	1.03
22	Diseases of the ear	4.32		1.23	.15	6.68		1.67	.36
23	Catarrhs and common colds	7.41			.08	3.34			.12
24	Bronchitis	58.64			1.22	71.79			2.03
25	Pneumonia	1.85			.47				
26	Pulmonary phthisis	2.47		1.23	.20	3.34			.32
27	Pleuritis	1.85			.08	1.67			.07
28	Other diseases of the respiratory system	3.70		1.85	.65	5.01		3.34	1.39
29	Diseases of the heart and valves	7.41	.62	3.09	.88	13.36	1.67	1.67	.57
30	Other diseases of the circulatory system	1.85		.62	.22				
31	Tonsillitis	21.60			.24	25.04			.26
32	Dyspepsia, colic, and constipation	32.72			.74	46.74			.90
33	Other diseases of the digestive system	52.47		3.09	1.99	63.44		3.34	2.42
34	Diseases of the kidneys	2.47	1.85		.34	1.67	1.67		.18
35	Other diseases of the genito-urinary system (non-venereal)	11.73			1.11	20.03			1.69
36	Diseases of the locomotor system (excluding muscular rheumatism)	6.17		3.70	.54	6.68		3.34	.92
37	Diseases of the integumentary system	55.56			1.21	35.06			.82
38	All other diseases	7.41		.62	.47	5.01		1.67	.34
39	Heat stroke	1.85			.01				
40	Frost-bite and general freezing								
41	Contusions and sprains	109.26			3.17	136.89			3.24
42	Dislocations	1.23			.12				
43	Fractures (not gunshot)	7.41		.62	1.22	6.68		1.67	1.41
44	Incised, lacerated, contused, and punctured wounds	36.42			1.13	36.73			1.32
45	Shot wounds	1.85	1.23		.11		1.67		
46	All other injuries	31.48	1.85	1.85	1.49	35.06	1.67	1.67	1.60
	Total for disease	671.61	3.09	30.86	26.51	798.00	3.34	26.71	30.51
	Total for injury	189.50	3.09	2.47	7.25	215.36	3.34	3.34	7.56
	Total for all causes	861.11	6.17	33.33	33.76	1,013.36	6.68	30.05	38.07

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Townsend, Wash.				Fort Canby, Wash.				Vancouver Barracks, Wash.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												.0
2									31.91			1.40
3	18.87			.05					100.06			2.56
4												
5	94.34			.67	30.30			.50	59.57			.98
6												
7												
8	37.74			.98					36.17			3.25
9					30.30		15.15	1.25	23.40		2.13	1.53
10	18.87			1.97	30.30			.71	4.26			.15
11	18.87			2.84					2.13			.01
12									2.13			.02
13	18.87			.67	121.21			.54	68.08			1.15
14												
15	188.68		18.87	14.06	166.67		15.15	8.55	85.11		4.26	4.02
16									2.13			.1
17												
18												
19					45.45			.33	63.83			1.99
20					15.15			.33	12.77			.56
21	18.87			2.43	15.15			1.20	21.28		2.13	.87
22									8.51		2.13	.45
23									4.26			.16
24	94.34			2.64	30.30			.37	76.60			2.22
25												
26	18.87			3.31					2.13			.04
27									2.13			.09
28									6.38		4.26	1.76
29					45.45			1.20	10.64	2.13	2.13	.56
30												
31	37.74			.10	60.61			.46	19.15			.25
32					60.61			.33	51.06			1.11
33	132.08			1.45	30.30			.33	61.70		4.26	2.87
34									2.13	2.13		.2
35	18.87			1.91	15.15			.04	21.28			1.99
36					15.15			.17	6.38		4.26	1.15
37	75.47			2.95	30.30			.17	31.91			.68
38	37.74			1.40					2.13		2.13	.28
39												
40												
41	169.81			1.60	90.91			1.95	142.53			3.66
42												
43									8.51		2.13	1.79
44	56.60			1.24	45.45			.91	34.04			1.41
45										2.13		
46					90.91			1.12	31.91	2.13	2.13	1.87
	830.19		18.87	37.43	742.43		30.30	16.48	819.15	4.26	27.66	32.35
	226.41			2.84	227.27			3.98	217.02	4.26	4.26	8.76
	1,056.60		18.87	40.27	969.70		30.30	20.46	1,036.17	8.51	31.91	41.11

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	In the field, Northern Group, Pacific Coast.				*Southern Group.*			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	*Admitted.*	*Died.*	*Discharged.*	*Constantly non-effective.*
1	Enteric fever					5.88			.76
2	Other specific febrile and acute infectious diseases, including erysipelas					3.92			.28
3	Malarial fevers and resulting conditions					37.22			1.35
4	Typho-malarial fever					.98			.14
5	Diarrhœa, including cholera morbus					44.07			.37
6	Dysentery					17.63			.47
7	Other miasmatic diseases								
8	Gonorrhœa and results					16.65			1.20
9	Syphilis and results					21.55		5.88	1.54
10	Other venereal diseases					16.65			1.46
11	Vaccina					11.75			.14
12	Other enthetic diseases					1.96			.01
13	Alcoholism					41.14			.52
14	Other dietic diseases								
15	Rheumatism, including muscular					54.85		2.94	3.72
16	Other constitutional diseases					3.92		.98	.16
17	Developmental diseases					.98		3.92	.05
18	Parasitic diseases					.98			.02
19	Headache and neuralgia					36.24			.71
20	Other diseases of the nervous system					6.86	.98	1.96	1.00
21	Diseases of the eye					11.75		1.96	.72
22	Diseases of the ear					2.94		.98	.03
23	Catarrhs and common colds					9.79			.06
24	Bronchitis					50.93			.74
25	Pneumonia					2.94			.74
26	Pulmonary phthisis					1.96		1.96	.13
27	Pleuritis					1.96			.09
28	Other diseases of the respiratory system					2.94		.98	.22
29	Diseases of the heart and valves					3.92		3.92	1.07
30	Other diseases of the circulatory system					2.94		.98	.35
31	Tonsillitis					19.59			.22
32	Dyspepsia, colic, and constipation					24.49			.65
33	Other diseases of the digestive system					46.03		2.94	1.73
34	Diseases of the kidneys					2.94	1.96		.44
35	Other diseases of the genito-urinary system (non-venereal)					6.86			.77
36	Diseases of the locomotor system (excluding muscular rheumatism)					5.88		3.92	.31
37	Diseases of the integumentary system					67.58			1.44
38	All other diseases					8.81			.55
39	Heat stroke					2.94			.01
40	Frost-bite and general freezing								
41	Contusions and sprains					93.06			3.13
42	Dislocations					1.96			.19
43	Fractures (not gunshot)					7.84			1.12
44	Incised, lacerated, contused, and punctured wounds					36.24			1.02
45	Shot wounds					2.94	.98		.18
46	All other injuries					29.38	1.96	1.96	1.43
	Total for disease					597.45	2.94	33.30	24.17
	Total for injury					174.34	2.94	1.96	7.07
	Total for all causes					771.79	5.88	35.26	31.24

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Fort Gaston, Cal.				Fort Mason, Cal.				Alcatraz Island, Cal.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	27.78			5.25								
2					23.81			1.76				
3					23.81			.47				
4												
5	111.11			.61	71.43			.39				
6									21.98			.4
7												
8	55.56			4.19	23.81			.59				
9	55.56		27.78	2.66								
10	111.11			5.86	23.81			.91	10.99			1.1
11					23.81			.33				
12					23.81			.07				
13	194.44			.91					32.97			.4
14												
15	138.89			22.53	47.62			.46	10.99			.0
16												
17												
18												
19	55.56			3.42	95.24			.85	32.97			2.47
20				.15		23.81						.3
21					47.62			.33	10.99			.69
22	27.78			.15								
23	83.33			.23								
24	55.56			.15					109.89			1.78
25									10.99			.81
26					23.81		23.81	2.61				
27												
28												
29											10.99	
30												
31									32.97			.24
32	55.56			.15					32.97			4.18
33	166.67			.84	47.62			2.93	43.96			.9
34					23.81	23.81		.52				
35	55.56			8.90					10.99			.9
36												
37	194.44			2.28	95.24			2.28	98.90			3.01
38	55.56			.38	23.81			.20				.15
39												
40												
41	166.67			1.14	23.81			2.08	65.93			1.02
42												
43	27.78			2.51	23.81			2.54				
44	83.33			.91	71.43			1.04	32.97			.33
45												
46	55.56			.46	23.81			.39	21.98			.12
	1,444.45		27.78	58.68	619.05	47.62	23.81	14.68	461.54		10.99	17.67
	333.33			5.02	142.85			6.06	120.88			1.48
	1,777.78		27.78	63.70	761.90	47.62	23.81	20.74	582.42		10.99	19.15

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Angel Island, Cal.				Presidio of San Francisco, Cal.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever	7.04			.64				.31
2	Other specific febrile and acute infectious diseases, including erysipelas					4.95			.42
3	Malarial fevers and resulting conditions	35.21			2.55	49.50			1.11
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	21.13			.27	17.33			.13
6	Dysentery				.23				.07
7	Other miasmatic diseases								
8	Gonorrhœa and results	42.25			3.11	12.38			1.30
9	Syphilis and results	21.13		7.04	1.27	32.18		2.48	2.29
10	Other venereal diseases	21.13			1.97	9.90			1.12
11	Vaccina	28.17			.27	12.38			.20
12	Other enthetic diseases								
13	Alcoholism	35.21			.52	42.08			.72
14	Other dietic diseases								
15	Rheumatism, including muscular	35.21			2.18	64.36		2.48	5.04
16	Other constitutional diseases					9.90		2.48	.40
17	Developmental diseases			14.08					
18	Parasitic diseases	7.04			.14				
19	Headache and neuralgia	21.13			.14	37.13			.54
20	Other diseases of the nervous system			7.04	.29	7.43		2.48	.79
21	Diseases of the eye	21.13			1.00	14.85		4.95	1.28
22	Diseases of the ear	7.04			.14	2.48		2.48	.02
23	Catarrhs and common colds					14.85			.12
24	Bronchitis	84.51			.73	7.43			.46
25	Pneumonia	7.04			2.39				
26	Pulmonary phthisis			7.04					
27	Pleuritis					2.48			.16
28	Other diseases of the respiratory system					4.95		2.48	.55
29	Diseases of the heart and valves			7.04	5.08	7.43		2.48	.81
30	Other diseases of the circulatory system	7.04			2.38				
31	Tonsillitis	42.25			.33	19.80			.33
32	Dyspepsia, colic, and constipation	7.04			.10	19.80			.40
33	Other diseases of the digestive system	49.30		7.04	1.00	39.60		4.95	1.38
34	Diseases of the kidneys						2.48		.86
35	Other diseases of the genito-urinary system (non-venereal)					2.48			.16
36	Diseases of the locomotor system (excluding muscular rheumatism)	7.04			.12	4.95		2.48	.37
37	Diseases of the integumentary system	112.68			2.35	47.03			1.18
38	All other diseases				.04	9.90			1.00
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	77.46			3.96	111.38			3.94
42	Dislocations								.06
43	Fractures (not gunshot)	7.04			1.60	7.43			.92
44	Incised, lacerated, contused, and punctured wounds	21.13			.29	42.08			1.25
45	Shot wounds					7.43	2.48		.45
46	All other injuries	35.21	7.04	7.04	1.49	34.65	2.48	2.48	2.50
	Total for disease	619.72		49.30	29.21	497.53	2.48	29.70	23.52
	Total for injury	140.84	7.04	7.04	7.37	202.97	4.95	2.48	9.12
	Total for all causes	760.56	7.04	56.34	36.58	700.48	7.43	32.18	32.64

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Continued.*

	Benicia Barracks, Cal.				Benicia Arsenal, Cal.				San Francisco, Cal.			
	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1												
2												
3	63.49			4.73	18.52			.15				
4	15.87			2.30								
5	47.62			.43	92.59			.76				
6					18.52			.15				
7												
8												
9					18.52			.30				
10					18.52			.41				
11												
12												
13	31.75			.65	18.52			.20				
14												
15	95.24		15.87	7.38	92.59			1.07				
16												
17												
18												
19	31.75			.13	92.59			1.42				
20	15.87			1.14	18.52			.10	23.26			
21												
22												
23												
24	47.62			.43	111.11			1.32				
25												
26												
27	15.87			.35								
28												
29												
30												
31	15.87			.26								
32	15.87			.22	18.52			.05				
33	47.62			3.37	55.56			7.00				
34					18.52			1.12				
35	31.75			5.07								
36												
37					18.52			1.42				
38	15.87			1.26	18.52			.66				
39	47.62			.22								
40												
41	63.49			2.30	55.56			1.98	23.26			1.40
42	15.87			.65								
43				.26								
44	47.62			4.73	37.04			.41				
45												
46	15.87			1.00	37.04			2.03				
	492.06		15.87	27.70	629.63			16.13	23.26			
	190.48			9.18	129.63			4.42	23.26			1.40
	682.54		15.87	36.88	759.26			20.55	46.51			1.40

Table showing, for each region and each military station therein, the sick report, deaths, discharges and constant

	Names of regions and military stations	Los Angeles, Cal.				San Diego Barracks, Cal.			
	Causes of admission to sick report.	Admitted.	Died.	Discharged.	Constantly non-effective.	Admitted.	Died.	Discharged.	Constantly non-effective.
1	Enteric fever					58.82			6.45
2	Other specific febrile and acute infectious diseases, including erysipelas								
3	Malarial fevers and resulting conditions								
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus					98.04			.43
6	Dysentery								
7	Other miasmatic diseases								
8	Gonorrhœa and results					39.22			.91
9	Syphilis and results					19.61		19.61	5.37
10	Other venereal diseases					39.22			5.75
11	Vaccina					39.22			.27
12	Other enthetic diseases					19.61			.11
13	Alcoholism					58.82			.32
14	Other dietic diseases								
15	Rheumatism, including muscular					98.04		19.61	1.66
16	Other constitutional diseases								
17	Developmental diseases							19.61	
18	Parasitic diseases								
19	Headache and neuralgia					39.22			.32
20	Other diseases of the nervous system					19.61			10.64
21	Diseases of the eye								.05
22	Diseases of the ear								
23	Catarrhs and common colds					19.61			.11
24	Bronchitis					274.51			3.87
25	Pneumonia								6.02
26	Pulmonary phthisis					19.61			.38
27	Pleuritis								
28	Other diseases of the respiratory system								
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system								
31	Tonsillitis					19.61			.21
32	Dyspepsia, colic, and constipation	35.71			.59	117.65			1.13
33	Other diseases of the digestive system					117.65			4.68
34	Diseases of the kidneys					19.61			.32
35	Other diseases of the genito-urinary system (non-venereal)								
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system					39.22			.43
38	All other diseases								
39	Heat stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	107.14			1.56	98.04			1.34
42	Dislocations	35.71			5.97	19.61			2.58
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds					39.22			.80
45	Shot wounds								
46	All other injuries					19.61			.16
	Total for disease	35.71			.59	1,156.86		58.82	49.42
	Total for injury	142.86			7.53	176.47			4.89
	Total for all causes	178.57			8.12	1,333.33		58.82	54.31

causes, and **Ratios** *per 1,000 of mean strength, of admissions to non-effectiveness for the year 1887.—Concluded.*

	In the field, Southern Group, Pacific Coast.				.....				Hot Springs, Ark.			
	Admitted.	Died.	Discharged.	Constantly non-effective.					Admitted.	Died.	Discharged.	Constantly non-effective.
1	14.93			.61								
2	14.93			.57								
3	104.48			3.68								
4												
5	223.88			2.37						47.62		18.13
6	223.88			5.52							47.62	59 23
7												
8	14.93			.45					47.62			2.35
9	29.85		29.85	1.28					47.62			33.79
10	14.93			1.39								
11												
12												
13	59.70			.29								
14												
15	14.93			.12					238.10		142.86	487.41
16												11.74
17	14.93		14.93	.78								
18												
19	14.93			.08					47.62		47.62	41.88
20										47.62		44.88
21												
22												
23												
24	29.85			.12								
25	14.93			.61								
26												
27												
28	14.93			.04								
29	14.93		14.93	.53								
30	29.85		14.93	.29								
31	14.93			.08					47.62			4.57
32	29.85			.16								
33									47.62			30.66
34											95.24	30.01
35	14.93			.04								35.88
36	44.78		44.78	2.29								
37	164.18			1.59					47.62			8.87
38									47.62			26.61
39												
40												
41	149.25			5.81								
42												
43	14.93			2.29								
44	14.93			.45								
45												
46	29.85			.20								
	1,119.40		119.40	22.90					571.43	95.24	333.33	836.01
	208.96			8.75								
	1,328.36		119.40	31.65					571.43	95.24	333.33	836.01

REPORT

OF THE

SURGEON-GENERAL OF THE ARMY

TO THE

SECRETARY OF WAR

FOR THE

FISCAL YEAR ENDING JUNE 30, 1889.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1889.

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REPORT

OF

THE SURGEON-GENERAL.

SURGEON-GENERAL'S OFFICE,
Washington, D. C., September 30, 1889.

SIR: I have the honor to submit herewith a statement of disbursements made during the fiscal year ending June 30, 1889, from the appropriation made by act of Congress, approved September 22, 1888, for the expenses of the Medical Department of the Army, and the balance on hand at the close of said fiscal year, viz:

Medical and Hospital Department, 1889:			
Appropriated by act approved September 22, 1888			$200,000.00
Refunded during the year:			
By the Army Medical Museum, for supplies furnished		$108.19	
By Soldiers' Home, District of Columbia, for supplies furnished		578.04	
By the U. S. Military Prison, for supplies furnished		529.74	
By Private L. Plunkett, Twentieth Infantry, for medical attendance, etc		76.33	
And for supplies lost in transportation, etc		15.00	
			1,307.30
Total to be accounted for			201,307.30
Disbursed to June 30, 1889:			
For medical and hospital supplies		$76,246.66	
For expenses of purveying depots		4,680.64	
For pay of employés, viz:			
Medical purveying depot, New York, N. Y.	$11,979.85		
Medical purveying depot, St. Louis, Mo	11,562.63		
Medical purveying depot, San Francisco, Cal	6,219.96		
Medical dispensary, Washington, D. C	1,100.00		
Army and Navy Hospital, Hot Springs, Ark	4,469.00		
Medical director's office, Division of the Atlantic	1,800.00		
Medical director's office, Division of the Pacific	171.00		
Medical director's office, Department of Dakota	516.66		
Medical director's office, Department of the Missouri	318.33		
Medical director's office, Department of Arizona	275.00		
		38,412.43	

Medical and Hospital Department, 1889—Continued.		
For pay of employés, viz:		
For medical attendance, medicines, nursing, etc	$6,243.31	
For advertising	287.02	
For miscellaneous expenses	837.53	
		$126,707.59
Balance on hand July 1, 1889		74,599.71
As follows:		
Balance in United States Treasury	11,725.32	
In hands of disbursing officers	62,874.39	
		74,599.71

Nearly all the balance remaining on hand at the close of the fiscal year has already been or will be expended in the payment of supplies contracted for and other obligations incurred prior to July 1, 1889.

The money value of the medical and hospital supplies actually issued during the fiscal year ending June 30, 1889, was $195,618, and the cost of the supplies required for issue during the current fiscal year will undoubtedly exceed that amount. I base the estimate of the probable cost of the medical and hospital supplies which will be required for issue during the present fiscal year on the fact that the average money value of medical supplies issued annually since the fiscal year 1877 was, approximately, $176,000, exclusive of all other expenses.

In this connection I respectfully invite your attention to the estimate of appropriation required by the Medical Department of the Army for the service of the fiscal year ending June 30, 1891, submitted on August 21, 1889, as follows:

For the purchase of medical and hospital supplies, including disinfectants for general sanitation, expenses of medical purveying depots, pay of employés, medical care and treatment of officers and enlisted men of the Army on duty at posts and stations for which no other provision is made, for the proper care and treatment of cases in the Army suffering from contagious or epidemic diseases, and the supply of the Army and Navy Hospital at Hot Springs, Ark., advertising and other miscellaneous expenses of the Medical Department, in all, $215,000. The amount to be expended for pay of civilian employés not to exceed $45,000.

This estimated amount will, it is believed, be necessary to meet the wants of the Medical Department for the purposes stated for the ensuing fiscal year.

For the fiscal years 1885 and 1886 the number of contract surgeons allowed by law was seventy-five, for 1887 and 1888 the number was reduced to sixty-five, and for the years 1889 and 1890 the number allowed was still further reduced to fifty. The consequence of this is a necessarily large increase in the expenses incurred in the employment of private physicians at posts and stations where no medical officer or contract surgeon is stationed. Private physicians so employed are paid by the visit out of the general appropriation for the Medical Department.

Provision must also be made for preventing the spread of epidemic and contagious diseases, and the employment when necessary of skilled nurses for the proper care of such cases.

I have the honor to renew my recommendation in my last annual report that, in order to facilitate the purchase and delivery of medical and hospital supplies, and for the best interests of the service with a view to economy, Congress be requested to grant authority, in the purchase of medical and hospital supplies which cost less than $500, to make such purchases after due advertisement for bids, without entering into a formal written contract. In many instances a strict compliance with the letter of the law and existing regulations in preparing the formal executory contracts, *five copies of which are required*, entails an expense

to the Government in clerical time and labor fully equal to the cost of the articles for which the contract is made; it is not believed that such was the intention of the framers of the law relating to purchases of Government supplies.

I have the honor to submit also a statement showing the expenditures during the fiscal year from the appropriations for the Medical Department for prior fiscal years and the balances on hand June 30, 1889, viz:

Medical and Hospital Department, 1888:		
Balance on hand July 1, 1888		$99,536.82
Refunded during the year		297.31
Total to be accounted for		99,834.13
Disbursed during the year:		
For medical and hospital supplies	$49,716.14	
For pay of employés	106.37	
For expenses of purveying depots	1,291.99	
For medical attendance, etc	1,694.25	
For miscellaneous expenses	120.17	
		52,928.92
Balance on hand July 1, 1889		46,905.21
Medical and Hospital Department, 1887:		
Balance on hand July 1, 1888		44,409.43
Disbursed during the year	$135.00	
Transferred to surplus fund	44,274.43	
		44,409.43
Medical and Hospital Department, 1886:		
Balance on hand July 1, 1888		9,395.91
Disbursed during the year	$1,513.25	
Transferred to surplus fund	2,600.20	
		4,113.45
Balance on hand July 1, 1889		5,282.46
Medical and Hospital Department, 1889 and prior years.—Certified claims:		
Appropriated by act approved March 2, 1889		390.00
Disbursed during the year		390.00
Medical and Hospital Department, 1886 and prior years:		
Appropriated by act approved October 19, 1888		61.60
Disbursed during the year		61.60
Library of the Surgeon-General's Office, 1888:		
Balance from previous fiscal year		261.17
Disbursed during the year		261.17
Library of the Surgeon-General's Office, 1889:		
Appropriated by act of September 22, 1888		10,000.00
Disbursed during the year		8,322.11
Balance June 30, 1889		1,677.89
Army Medical Museum, 1888:		
Balance from previous fiscal year		1,196.31
Disbursed during the year		1,196.31
Army Medical Museum, 1889:		
Appropriated by act of September 22, 1888		5,000.00
Disbursed during the year		4,554.56
Balance June 30, 1889		445.44
Medical and Surgical History:		
Balance from previous year		2,835.12
Disbursed during the year		123.18
Balance June 30, 1889		2,711.94

Building for Army Medical Museum and Library:		
Balance from previous fiscal year		$1,180.30
Appropriated by act of October 2, 1888		2,000.00
Total to be accounted for		3,180.00
Disbursed during the year		1,907.41
Balance June 30, 1889		1,272.89
Artificial limbs, 1886:		
Balance from previous fiscal year		2,966.56
Appropriated by act of March 2, 1889		125.00
Refundment warrants		4.84
Total to be accounted for		3,096.40
Disbursed during the year	$129.84	
Carried to the surplus fund	2,966.56	
		3,096.40
Artificial limbs, 1887:		
Balance from previous fiscal year		101,435.19
Disbursed during the year	$147.45	
Carried to the surplus fund	101,287.74	
		101,435.19
Artificial limbs, 1888:		
Balance from previous fiscal year		37,920.30
Disbursed during the year		3,860.83
Balance June 30, 1889		34,059.47
Artificial limbs, 1889:		
Appropriated by act of October 2, 1888		200,000.00
Disbursed during the year		176,818.64
Balance June 30, 1889		23,181.36
Appliances for disabled soldiers, 1887:		
Balance from previous fiscal year		1,544.00
Carried to surplus fund		1,544.00
Appliances for disabled soldiers, 1888:		
Balance from previous fiscal year		1,772.20
Disbursed during the year		141.50
Balance June 30, 1889		1,630.70
Appliances for disabled soldiers, 1889:		
Appropriated by act of October 2, 1889		2,000.00
Disbursed during the year		1,245.77
Balance June 30, 1889		754.83
Support and medical treatment of destitute patients, 1889:		
Appropriated by act of October 2, 1888		17,000.00
Disbursed during the year		17,000.00
Expended in furnishing trusses to disabled soldiers under the Revised Statutes, sections 1176 to 1178, and act of March 3, 1879		6,061.97
Artificial limbs, etc., furnished:		
In kind—		
Artificial arms		3
Artificial legs		29
Apparatus for legs		2
Apparatus for arms		1
By commutation		3,366
Appliances		96
Trusses		1,052

ARMY MEDICAL MUSEUM.

The total number of specimens received during the fiscal year was 1,298; total number of specimens in the Museum June 30, 1889, 27,982. The following statement shows the details of additions in the different sections:

Pathological section:	
In museum June 30, 1888	9,818
Received during the year	114
In museum June 30, 1889	9,932
Anatomical section:	
In museum June 30, 1888	2,853
Received during the year	329
	3,182
Exchanged during the year	11
In museum June 30, 1889	3,171
Section of comparative anatomy:	
In museum June 30, 1888	1,689
Received during the year	28
In museum June 30, 1889	1,717
Microscopical section:	
In museum June 30, 1888	10,416
Received during the year	320
In museum June 30, 1889	10,736
Miscellaneous section:	
In museum June 30, 1888	818
Received during the year	171
In museum June 30, 1889	989
Provisional pathological section:	
In museum June 30, 1888	726
Received during the year	178
In museum June 30, 1889	904
Provisional anatomical section:	
In museum June 30, 1888	375
Received during the year	158
In museum June 30, 1889	533

RECAPITULATION:

Total number of specimens in museum June 30, 1888	26,695
Exchanged during the year	11
	26,684
Total number received during the year	1,298
Total number in museum June 30, 1889	27,982

Among the more interesting specimens received at the Army Medical Museum during the past fiscal year were:

(1) Series of specimens showing results of ileostomy and ileocolostomy in the dog, contributed by Dr. Nicholas Senn, Milwaukee, Wis. (2) A case of hydrocephalus in calf, contributed by Dr. Frank Madden, Plattsburgh, N. Y., Lieutenant, U. S. Army, retired. (3) Series of par-

asites from dog and sheep, contributed by Dr. Cooper Curtice, Bureau of Animal Industry, Department of Agriculture. (4) Specimen from a case of meningeal hemorrhage, contributed by Acting Assistant Surgeon D. S. Lamb, U. S. Army. (5) Seventy-three specimens of eyes showing disease and injury, contributed by Dr. H. D. Noyes, New York. (6) Kidneys from a case of acute tuberculosis of cow, contributed by Dr. C. B. Robinson, Veterinary Surgeon, Washington, D. C. (7) Twenty-three specimens of enucleated eyes, contributed by Dr. S. M. Burnett, Washington, D. C. (8) A series of wax models by J. Baretta, of Paris, showing diseases of the skin. (9) A series of models prepared by Dr. A. Ziegler, of Freiburg, Baden, showing the development of the chicken, the formation of the primordial skull, the development of the human heart, the development of the convolutions of the brain, etc. (10) A series of seven plaster casts prepared under the direction of Professor D. J. Cunningham, of Dublin, demonstrating the relations of different parts of the cranium to the cerebral lobes at different ages. (11) A copy of the Montefiore Prize Medal, awarded at the close of each course of instruction to the surgeons on probation who evince the highest proficiency in the subject of military surgery, presented by Surgeon General Sir Thomas Longmore, of the British army.

A careful study has been made of the skulls and skeletons collected in Arizona by the Hemenway Southwestern Archæological Expedition, and sent to the Museum for that purpose, and the results of this study are embodied in a report, with numerous illustrations, which is ready for publication. As these specimens are undoubtedly among the oldest human remains found in North America, a large part of them being at least one thousand years old, it is believed that this report is specially interesting and valuable in relation to American archæology and ethnology, and it is respectfully recommended that Congress authorize that 1,000 copies of it be printed at the Government Printing Office for distribution by this office.

LIBRARY.

The following table shows the additions made to the Library during the fiscal year:

Description.	On hand June 30, 1888.	Added during fiscal year.	Total June 30, 1889.
Medical journals	26,891	1,118	28,009
Medical transactions	3,766	215	3,981
Bound theses	1,385	146	1,531
Bound pamphlets	1,768	50	1,818
Other medical books	55,602	3,010	58,612
Total	89,412	4,539	93,951
Medical theses	47,849	1,936	*49,785
Medical pamphlets	82,765	8,434	†91,199
Total	130,614	10,370	140,984

*Of the total number of single theses on hand, there were bound during the year 2,664, in 146 volumes.

†Pamphlets bound during the year, 405, in 39 volumes.

There were presented to the Library during the year 403 books and 6,970 pamphlets; also 5,406 numbers of journals.

Volume X of the Index-Catalogue, including from "O" to "Pfutsch," forming a volume of 1,059 pages, has been printed, and the edition distributed to those institutions and persons who have received the previous volumes. The preparation of the manuscript of Volume XI is well advanced, and the first part of it is now going to press.

THE HOSPITAL CORPS.

The Hospital Corps has rendered effective service both in garrison and field. Attention is invited to the following tabular statement of its condition during the past year.

The personnel of the lower grade is not yet what it should be. This is to be attributed chiefly to the meager pay allowed to its members. On this account some of the most efficient men decline to re-enlist. It is to be regretted that in the press of business the bills for the relief of the privates of the Hospital Corps, which were presented to the last Congress, were not finally acted upon, favorable reports concerning them having been made by the military committees of both houses. An increase of pay for these men would be a measure of justice, and I renew my recommendation of last year, for which I ask your favorable consideration, that the matter be again brought to the attention of Congress.

During the year one recruit has been assigned to his legitimate duties after having received a year's instruction in the military duties of the line.

There are 19 vacancies for hospital stewards, 50 for acting hospital stewards, 12 for privates, and 9 for civilians.

The number of desertions from the corps amounted to 24 during the year, or 2.2 per cent. of the entire force, which compares favorably with the number of desertions—10.3 per cent.—from the whole Army during 1887–'88. The causes that led to these desertions were those usually found in the line. Few were due to dissatisfaction with the duties of the corps, so far as can be ascertained.

Four hospital stewards were tried by general court-martial for various offenses, none being sentenced to dismissal from the Army. Twenty-seven privates were tried by general court-martial; 2 of these were acquitted, 9 were sentenced to dishonorable discharge, and 16 received minor sentences.

The number of members of the Hospital Corps who were discharged by expiration of service and did not re-enlist was 90, or 8.82 per cent. of the entire force.

One of the encouraging exhibits in the tables submitted is the number of applicants for promotion to the position of hospital steward (32), and acting hospital steward (75). Of the former, 25 were examined and 18 (72 per cent.) found qualified; of the latter, 52 were examined and 47 (90 per cent.) found qualified.

Emergencies which have arisen through death, epidemic, the requirements of field service, etc., have been promptly and satisfactorily met by temporary transfers of station, as provided in A. R., 1571.

The drill and discipline of the privates of the corps are reported by the several medical directors as good, medical officers having taken great interest in their instruction.

Description.	Hospital stewards.	Acting hospital stewards.	Privates.	Matrons.
GAIN.				
In service June 30, 1888	139	24	590	156
Re-enlisted	16	10	48	
Promoted after examination	19			
Rejoined from desertion			7	
Detailed from privates of the Hospital Corps		47		
Transferred from line and staff corps			182	
Enlisted			6	
Re-enlisted from other corps			6	
Appointed				95
Total to be accounted for	174	81	839	
Total gain	35	57	249	
LOSS.				
Discharges:				
Expiration of service	19	13	132	
For disability	5		13	
By sentence of general court-martial			9	
By order	6	1	20	95
Promoted		17	47	
Retired	2			
Died	1		4	
Deserted			24	
Transfer revoked			1	
Total loss	33	31	251	95
In service June 30, 1889	141	50	588	156

Record of examinations.

	Hospital stewards.	Acting hospital stewards.		Hospital stewards.	Acting hospital stewards.
Number of applications	32	75	Failed	6	5
Disapproved	1	1	Found qualified	18	47
Withdrawn		1	Examination not completed June 30, 1889	1	
Not entitled to examination	2	4	To be examined in next class		17
Examination authorized	29	52			
Declined	4				

CIVILIANS.

Applications received	39
Failed to accept conditions	37
Enlistments authorized	2
Enlisted	2

PROVIDENCE HOSPITAL.

Under the provisions of the act of October 2, 1888, making appropriation of $17,000 "for the support and medical treatment of 85 medical and surgical patients who are destitute in the city of Washington, under a contract to be made with the Providence Hospital by the Surgeon-General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation:

Number of patients in hospital July 1, 1888	95
Number of patients admitted during the year	805
Total number of patients treated	900
Average number of patients admitted per month	67
Number remaining in hospital June 30, 1889	91
Total number of days' treatment afforded	33,743
Average number of days' treatment per patient	37
Average number of patients treated per day	93
Longest term of treatment ..... days	365
Shortest term of treatment ..... day	1
Number of patients in hospital during the whole year	20

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients shown as having remained in hospital during the whole year are paupers, incurable, without home or friends.

ARMY AND NAVY HOSPITAL, HOT SPRINGS, ARK.

At the beginning of the year, July 1, 1888, there were in hospital:

Patients		33
Admitted during the year		114
Total		147
Returned to duty	68	
Left hospital for other stations, residences, and on sick leave	14	
Discharged on expiration of service	5	
Discharged on surgeon's certificate of disability	10	
Total left hospital		97
Remaining		50
Officers of the Army	6	
Officers of the Navy	3	
Enlisted men of the Army	40	
Enlisted men of the Navy and Marine Corps	1	
		50

There were no deaths during the year. Of the 14 who left hospital, but not for duty, 6 were officers who had still a part of sick leave remaining before returning to their posts or to duty, 3 were retired officers returned to their residences—condition improved—but whose disability was permanent, and 3 were enlisted men returned to their stations as their misconduct kept them from receiving benefit by treatment here.

There were 28 officers admitted, 9 from the Navy, and 5 retired officers from both Army and Navy.

On April 11, 1889, authority was given for the admission of officers of the United States Revenue Marine, in addition to those of the Army, Navy, and Marine Corps previously authorized, but no officer has been received under this authority.

Enlisted men were received from every Army department and branch of the service, from 93 posts, ranging from Fort Adams and Boston in the East to the Presidio on the Pacific, and from Fort Buford in the North to Fort Clark in the South. The greatest number from any one post was 6, from Columbus Barracks, Ohio; many posts sent but 1 each.

A table is appended showing the number of cases of each disease admitted and their disposition.

Of the cases treated the largest proportion, as was to be expected, was rheumatic, there being 63 cases of articular rheumatism and 34 cases of muscular rheumatism, with 2 other cases; in all, 99 out of a total of

147. The result in this class of cases was most satisfactory, as 46 were returned to duty, 9 left hospital with condition improved, and 10 were discharged the service, one of whom could have been returned to duty if he desired to re-enlist. Remaining under treatment, 34. Three of the cases of articular rheumatism discharged had degenerated into what might be called rheumatoid arthritis. The cases receiving most benefit from treatment were those of articular rheumatism in which the acute stage had passed. Of the 5 cases of articular rheumatism discharged for disability 2 were complicated with valvular disease and hypertrophy of heart, which developed more fully after their arrival at the hospital. One other such case in a young man improved so much as to warrant his return to duty. This would show but a small proportion of heart complications if it was not probable that other such cases were discharged from their posts.

Of the 99 cases of rheumatic disease it seems not unlikely that many more would have been discharged the service if they had not had the benefit of treatment in this hospital, particularly when it is considered that the average time they had been on sick report for the disease before leaving their posts was nearly three months. In a few cases admitted the rheumatism was found to be aggravated, if not induced, by a syphilitic taint. These specific cases were much benefited by the baths, combined with mercurial treatment.

Cases treated in Army and Navy General Hospital, Hot Springs, Ark., during the year ending June 30, 1889.

Diseases.	In hospital at beginning of year.	Admitted this year.	Total.	Returned to duty.	Left hospital for station or sick leave.	Discharged on expiration of service.	Discharged for disability.	Remaining.
Chronic articular rheumatism	26	43	63	34	3	.....	5	21
Chronic muscular rheumatism	4	30	34	12	4	2	3	13
Gout	.....	1	1	.....	1	.....	.....	.....
Rheumatoid arthritis	1	.....	1	.....	1	.....	.....	.....
Nervous diseases:								
Epilepsy, headache, neuralgia	.....	5	5	3	.....	.....	1	1
Paralysis	2	1	3	1	1	1	.....	.....
Locomotor ataxia	1	2	3	1	.....	.....	1	1
Diseases of digestive system:								
Diarrhea, chronic	.....	6	6	3	1	.....	.....	2
Dysentery	2	5	7	4	.....	.....	.....	3
Dyspepsia, ulceration of stomach, hepatitis, jaundice	.....	7	7	3	1	.....	.....	3
Diseases of respiratory system:								
Asthma, catarrh, chronic bronchitis	.....	4	4	2	1	.....	.....	1
Polyuria	.....	1	1	.....	.....	.....	.....	1
Sprain	.....	1	1	.....	.....	.....	.....	1
Skin diseases:								
Eczema, lichen, pruritus	2	4	6	3	1	1	.....	1
Syphilitic diseases	1	4	5	2	.....	1	.....	2
Total	33	114	147	68	14	5	10	50

WORK OF THE RECORD AND PENSION DIVISION FOR THE FISCAL YEAR ENDING JUNE 30, 1889.

The number of official calls upon the Record and Pension Division during the year for information as to the cause of death in cases of deceased soldiers and for hospital record of invalids was 57,654. Includ-

ing the 430 cases remaining unanswered at the end of the last fiscal year, the total number of cases to be disposed of was 58,084.

Of the new cases 41,645 were received from the Commissioner of Pensions, 6,416 from the Adjutant-General of the Army, and 8,325 from miscellaneous sources.

Replies have been furnished to the proper authorities in 58,084 cases, of which 43,256 were furnished to the Commissioner of Pensions, 6,479 to the Adjutant-General of the Army, and 8,349 to miscellaneous applicants; and as these numbers account for the total of the applications, the gratifying fact is apparent that at the close of the fiscal year the work of the office was purely current business, not a single case remaining unanswered.

The work of transcribing upon individual index record-cards the medical history of soldiers contained in the hospital records filed in the office has progressed satisfactorily. During the year 2,751,435 cards have been added to the files, making a total of 4,759,471 since April, 1887, when the work was commenced.

There were received during the year from medical officers in charge of military stations and commands 1,956 consolidated monthly reports of sick and wounded, 1,594 monthly reports of examinations of recruits, 121 special reports of interesting cases, 79 surgical reports, and 1,497 monthly sanitary reports.

In February, 1889, the regimental hospital records, comprising 3,301 volumes, were transferred to this division from the office of the Adjutant-General of the Army; 180 volumes of records were received from different sources, 46 were transferred to other bureaus and divisions, leaving 22,425 on file at the end of the year.

MEDICAL OFFICERS.

The requirements of the Army, as regards medical officers, during the past year have been as follows:

Number of permanent posts	139
Number of temporary posts and substations	11
Total	150

There were 119 medical officers reported to this office as having been on duty with scouting parties and other field service during the year.

An Army medical examining board was convened in New York City on the 1st of October, 1888, and the 1st of May, 1889, and remained in session during the respective months. The following is a recapitulation of the work performed by the board during its session:

Number of candidates for appointment in Medical Department invited to appear for examination		77
Number of candidates found qualified	5	
Number of candidates rejected	12	
Number of candidates rejected, physical disability	11	
Number of candidates who withdrew after partial examination	30	
Total number examined		58
Number of candidates who failed to appear for examination	18	
Number of candidates who declined to appear for examination	1	
Number invited but not examined		19

Deaths.—Since the date of last report 1 surgeon with the rank of lieutenant-colonel, 2 surgeons with the rank of major, and 2 assist-

ant surgeons with the rank of captain, have died. There has been no death among the medical officers on the retired list.

Retirements.—Two surgeons with the rank of colonel and 2 surgeons with the rank of major.

Promotions.—Two surgeons with the rank of lieutenant-colonel have been promoted to surgeon with the rank of colonel; three surgeons with the rank of major have been promoted to surgeon with the rank of lieutenant-colonel; seven assistant surgeons with the rank of captain promoted to surgeon with the rank of major; fifteen assistant surgeons with the rank of first lieutenant to assistant surgeon with the rank of captain (after five years' service), act of June 23, 1874.

Appointments.—Five assistant surgeons with the rank of first lieutenant; one candidate, approved by a previous examining board, has been appointed assistant surgeon with the rank of first lieutenant.

Resignations.—One assistant surgeon with the rank of lieutenant, and 2 assistant surgeons with the rank of captain.

Vacancies.—There are now 6 vacancies in the Medical Department.

Non-effective medical officers.—There are 17 medical officers on sick leave of absence, 9 of whom have been found incapacitated for active service and recommended for retirement by Army boards.* The nature of the disabilities alleged by the 8 remaining leaves but little room to expect their ultimate cure or return to duty. There are also 7 medical officers who, by reason of physical disability, are unfitted for full duty, and are consequently permitted to remain as permanent occupants of stations where duty is light and the climate suitable; three officers are on ordinary leave of absence, and there are 6 vacancies in the corps. In other words 24, or 14 per cent., of the force assignable to professional duty are non-effective on account of sickness, and 9, or 5 per cent., are not available on account of legitimate absence and vacancies, making a total non-effective of 33, or 19 per cent. of the force. Fourteen expeditions have been in the field without any specific attendance, and 11 military stations are without medical officers, the sick of the command, *i. e.*, officers and men *on duty*, being attended by citizen physicians who are paid by the visit—the women and children providing medical attendance at their own expense. This large number of non-effective medical officers is a subject for grave consideration. Not only are the important duties of sanitary supervision and the drill and discipline of the hospital corps at many posts and camps neglected, but the effective members of the department have been required to perform, in addition to their regular duty, a proportionate share of that properly belonging to their disabled colleagues, necessitating the denial of the authorized indulgence of leave of absence to many who have justly earned it by hard service, and entailing the performance of double duty upon others. The remedy for this evil is to be found in the retirement of those officers who are permanently disabled, in order that their places may be filled by effective men. This has been constantly urged during the last twelve years; but the demands upon the retired list from other branches of the service seem to have been so great that so far nothing has been accomplished. I therefore urgently recommend that this much needed relief

* Assistant Surgeon James W. Buell, who has been on sick leave since August 23, 1877; William R. Steinmetz, since September 16, 1878; J. V. DeHanne, since June 22, 1879; Joseph Y. Porter, who was ordered to his home, Special Orders, 136, Headquarters of the Army, Adjutant-General's Office, June 15, 1885; F. W. Elbrey, who has been on sick leave since July 26, 1882; Surgeon B. F. Fryer, since July 1, 1885, with the exception of five months; William S. Tremaine, since February 10, 1885; Victor Biart, since April 21, 1884, and Assistant Surgeon R. W. Shufeldt, since March 9, 1889.

be asked for from Congress by special legislation in a bill authorizing the retirement of those medical officers who are found unfitted for the performance of *all* their duties.

HEALTH OF THE ARMY.

The mean strength of the commands, officers and men, white and colored, from which medical reports were received during the year amounted to 24,726. There were 31,420 admissions to sick report, of which 25,415 were for disease and 6,005 for injury, equivalent to 1,270.73 entries for every thousand men of the strength present, and giving a daily or constant sick rate of a little over 4 per cent. of the command. The deaths numbered 218, equivalent to an annual death-rate of 8.15 per thousand of strength; and the discharges for disability 742, equivalent to a rate of 27.75.

A brief study of these statements, and their comparison with the corresponding statistics of other bodies of men, will suffice to show that the health of the Army during the year has been well up to the average of a well-cared for force. In civil life the health of a community is determined by a consideration of the death-rate per thousand of the population. The statistics of the Army are more extensive and precise; they give the death rate, by which comparison may be made with the corresponding facts collected by State and municipal boards of health; but they give also the number of cases of sickness in which the deaths occurred, and, what is of most importance in a military point of view, the daily sick-rate or percentage of non-effective men in the aggregate strength present and the number of men lost to the service by disability occasioned by disease or injury.

The death-rate for the year was for the Army, 8.15—whites, 7.55; colored, 13.66 per thousand of strength. The corresponding figures for last year were 8.12, 7.85, and 10.71; and for the decade ending December 31, 1886, 10.23, 9.97, and 12.91. This is a satisfactory showing, as may be seen by comparing it with the 1886 mortality-rate of the British army, 11.48, or of the Italian army for the same year, 9.31; but that it is not so low as it might be under improved sanitary conditions and surroundings is evidenced by the low death-rate for 1887 in the army of Austria-Hungary, 6.95. But evidently these comparisons, although showing that service in one army is more dangerous than in another, tell nothing as to the point which is of most interest, whether the deaths in the one army or in the other are more numerous than they ought to be were all due care taken of the health of the soldiers. The climate, exposures, and special diseases from which each army has to be protected are probably different; and no satisfactory comparisons as to the results of the care exercised in protecting the men can be made. There is, moreover, another source of difficulty in effecting comparisons of this kind. It may readily be seen that the death-rate of an army will have a certain dependence on the issue or withholding of discharges for disability. If a man affected with an inevitably fatal disease be discharged that he may go home to die, the death-rate is correspondingly lessened.

In comparing the rate with that of men of corresponding ages in civil life the preponderance of violent deaths in the Army must be considered. This preponderance must be expected from the nature of the service of the soldier as compared with the more restricted and defined conditions of danger in civil life. Hence to compare, by means of its

death-rate, the *health* of a military command with that of a body of civilians of the same age, deaths from disease only should be held in view. These deaths in the Army during the present year numbered 6.09. The death-rate, from disease, of civilians of the military age, as shown by the tables of the Tenth Census, was, during the census year, 6.87.* But on the one hand the acknowledged defects of the census returns must be remembered, and, on the other, the influence which discharges from the Army exercise in keeping down its recorded death-rate. It is not possible, therefore, to make accurate comparisons between the death rate of civilians and soldiers, nor, as will be now pointed out, is this needful.

The standard of comparison for the health of an army is *its own best annual record*. Outside of unusual vicissitudes, exposure, and epidemics, and of the insanitary conditions which bring disease and death into the ranks of an army during campaigns, the sanitary surroundings of the soldier do not vary much from year to year except in so far as they are modified by intelligent efforts for their improvement. What has been accomplished in the past should therefore be effected in the present, or a satisfactory explanation should be given of the cause of the failure, which would thus be converted into a source of protection for the future. Excluding deaths from injury and epidemics of cholera and yellow-fever, the lightest mortality record of the United States Army was that of the year 1885, when the rate of 4.76 was recorded. As the rate for the past year, 6.09, is by no means markedly in excess of this exceptional standard, I am justified from this point of view in claiming that during the year the health of the Army has been well up to the average of a well-cared for force.

The discharges numbered 742, equal to a rate of 27.75 per 1,000 of strength. This is but slightly in excess of the rate of the year 1887, 27.08, and considerably less than that of the decade ending December 31, 1886, 32.36. While this may be viewed as satisfactory in so far as it is a better record than is given by many of our past years, the corresponding rates of the British and the Italian armies for 1886, 15.03 and 13.29, respectively, and of the army of Austria-Hungary for 1887, 14.10, manifest clearly that there is a fault somewhere in our methods, or that our men break down more readily than those of the armies mentioned. The latter supposition can hardly be entertained, because if our troops become disabled thus readily they would die in proportion; but their death-rate, as already shown, compares favorably with those of foreign armies. On the other hand, the first suggestion is strengthened by the fact that of the 742 discharged men no less than 129 were declared by the medical officers who issued the certificates to have been in their disabled condition when they were enlisted as recruits. This is denied in general terms by the officers on duty at the recruiting depots, who instance the careful supervision held over the recruits during their probationary period, and suggest that the post surgeons yielded too readily to the importunities of dissatisfied men. It is difficult to get at the facts in these cases, but one fact is evident, that the proportion of discharges for disability in our Army is excessive, and that the utmost care should be taken at both depots and posts to reduce their number in the future.

The admissions to sick report during the year amounted to 1,270.73 as compared with 1,248.88 in 1887 and 1,615.49 during the decade ending

* The male population of the United States, white and colored, between and including the ages of twenty and forty four, as given in Table VII of the Statistics Mortality of the Tenth Census, was 8,087,358.

December 31, 1886. When these admissions are compared with those of foreign armies our service appears to a disadvantage. Thus, the Austria-Hungarian and the British armies, for the years already specified, gave 1,023.36 and 1,085.05 admissions, respectively, and the Italian 797.89. It is not that the United States soldier is taken sick more frequently than his brother-in-arms in Europe, but that he is officially taken on sick-report whenever he is excused from duty by the medical officer, however trivial the cause. When it is observed that less than half of the 796.89 admissions from the army of Italy resulted in 9.31 deaths,* while the 1,270.73 of the United States troops had a mortality of only 8.15, it is evident that the admissions in the two instances do not constitute facts of equal gravity, and are therefore not available for comparison.

But the number of men withdrawn from the aggregate strength of the command, the average number on sick report daily, or the rate of non-effectiveness from disease or injury, is a fact of equal importance in all armies, and may be justly used for purposes of comparison, as it embodies not only the number of admissions but the gravity of the cases. During the year 41.91 men out of every thousand were constantly on sick report or non-effective, as compared with 42.38 during the year 1887, and 43.70 during the preceding decade. To put these facts in different terms: The average loss of time by sickness for each man in the Army during the year was 15.3 days, during the preceding year 15.5, and during the preceding decade 15.9 days. Here the accurately kept records of the medical department give a clearly defined expression to the gradual progress that is being made in practical sanitation and the improvement of the condition of the soldier. This progress is slow; but it is necessarily so as we advance towards the rate which is inevitable on account of the liability of the human system to accident and sickness. If we look back a quarter of a century or more to the years immediately preceding or following the war of the rebellion, the progressive movement may be better appreciated. The average death-rate from disease, exclusive of cholera or yellow-fever, in the Army during the years 1840–1859, but not including the years of the Mexican war, was 18.98 per thousand of strength, and the corresponding rate of the year following the war was 19.29, as compared with the rate of the present year, 6.09.

When our non-effective 41.91 per thousand of strength is compared with the rates of the foreign armies mentioned, it is found that our Army takes a middle place between those of Italy and Austria-Hungary on the one hand, 34.41 and 39.94, respectively, and Great Britain on the other, 57.69. Or, when the facts are expressed as time lost during the year by each man of the force, the 15.3 days' sickness of the United States soldier is placed in comparison with 12.56 on the part of the Italians, 14.58 on the part of the Austria-Hungarian, and 21.06 on the part of the British soldier.

A bird's-eye view of the principal facts to which reference has been made in these remarks may be found in the following tabular statement:

* See appended papers, Table V.

Mean strength and ratios of admissions, deaths, discharges, and constant non-effectiveness per 1,000 of mean strength for various armies.

Army.	Mean strength.	Ratios per 1,000 of mean strength.						Average sick time to each soldier (days).
		Admissions.			Deaths.	Discharges.	Constantly non-effective.	
		Hospital or infirmary.	Quarters.	Total.				
United States, 1888	24,726	621.61	649.12	1,270.73	8.15	27.75	41.91	15.3
United States, 1887	23,841	604.13	642 75	1,246.88	8.12	27.08	42.38	15.5
United States, 1877–1886	23,670	.....	.....	1,615.49	10.23	32.36	43.70	15.9
Austria-Hungary, 1887	269,845	365.96	657.40	1,023.36	6.95	14.10	39.94	14.58
Great Britain (home and colonial), 1886	188,739	1,085.05	.....	1,085.05	11.48	15.03	57.69	21.06
Italy, 1886	204,428	430.36	367.53	797.89	9.31	13.29	34.41	12.56

NOTE 1.—The mean strength, admission, death, and non-effective rates for the English army do not include officers.

NOTE 2.—The ratios of deaths and discharges in the United States and the English armies are based on the mean strengths as furnished by their respective adjutants-general.

The average strength of the Army, 24,726, was composed of 22,310 white and 2,416 colored troops. It is well known to the student of vital statistics of civil life that the death-rate of our cities which have a mixed population is generally greater than that of those in which there is no colored element. The death-rate of people of African descent is always higher than that of the whites living in the same settlement. This is ascribed, for the most part, to the comparative poverty of the colored people, which crowds them in their dwellings in the less desirable parts of the locality. It would seem, however, from the medical reports of the Army, that there is a race proclivity to disease and death; for although the colored troops are in all respects subject to the same influences as the white troops at the same stations, the cases of sickness, and notably the death-rates, are greater among them than among the whites. Both sets of men are selected by the same recruiting officers, sent to the same depots, transferred for service to the same posts, lodged in similar quarters, provided with the same allowance of clothing, use the same water and the same food-supplies, perform the same duties and are subject to the same exposures, and yet during the year the admission to sick-report from the colored ranks were 1,464.82 per thousand of strength as compared with 1,249.71 among the whites, the non-effectives 44.56 in every thousand as compared with 41.62, the discharges 28.48 as compared with 27.67, and the death-rate 13.66, while that of the white troops was only 7.55. Last year a similar preponderance prevailed in the admissions; the non-effectives were 46.07 as against 41.99; the discharges 31.71 as against 26.61, and the deaths 10.61, while those of the white troops numbered only 7.85 in every thousand. Similar results are observed in following the comparative statistics back through the history of the colored troops in our Army; and the same race proclivity is manifested by the records of the British forces in the West Indies, as may be seen by the following tabular statement:

Year.		Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges.	Constantly non-effective.
1886	White	1,168.6	14.70	11.76	55.09
	Colored	1,292.8	19.64	16.07	57.25
Decade 1876–1885	White	893.5	15.42	13.95	44.68
	Colored	1,074.1	15.38	26.79	58.38

The five most important of the classified causes of disability among the troops during the year stood in the following order in their relation to the production of non-effectiveness: Injuries causing 8.36 of the total of 41.91 constantly disabled; venereal disease, 5.24; diseases of the respiratory organs, 3.87; diseases of the digestive organs, 3.42, and malarial diseases, 3.12. These causes held the same place in order of importance among both the white and the colored troops, in the former occasioning, 8.24, 5.18, 3.73, 3.36, and 3.13, respectively, and in the latter, 9.47, 5.84, 5.18, 4, and 3.04.

In order of importance in relation to admissions the five most prominent of the classified causes were, in the Army as a whole, injuries, giving rise to 242.86 of the total of 1,270.73 admissions; diseases of the digestive organs, 173.06; diseases of the respiratory organs, 123.68; malarial diseases, 118.22, and diarrhœal diseases, 114.58. The same order held good among the colored troops: Injuries, 300.50; digestive, 247.10; respiratory, 177.57; malarial, 110.93, and diarrhœal, 99.75; but among the whites malarial diseases and those of respiration changed places, the order being thus: Injuries, 236.62; digestive, 165.04; malarial, 119; respiratory, 117.84, and diarrhœal, 116.18.

In 1887 diarrhœal diseases took the third place as a cause of admissions, the rate being 138.71, the other causes holding the same position as during the present year except for this interpolation. During the decade ending December 31, 1886, diarrhœal diseases contended with those of respiration for the second place, the former having 204.95; diseases of digestion held the fourth place with 188.02, and malarial diseases the fifth with 184. The fall of the rates of respiratory, diarrhœal, and malarial diseases from the figures just given to 123.68, 114.58, and 118.22 during the present year, may be set down as evidence of the increased care given to the diet, clothing, and quarters of the Army.

I have stated that the rates of admission per thousand of strength in different armies are not susceptible of comparison on account of local rulings as to the severity which calls for admission; but in looking over the tables of comparison it is evident that skin and venereal diseases occupy a more prominent place as causes of admission among foreign armies than in that of the United States. Of the 1,023.36 admissions on the rolls of the Austro-Hungarian army, in 1887, skin diseases held the first place with 212.64 cases; then follow diseases of the digestion, of respiration, injuries, and fifthly, venereal diseases with a rate of 64.57. The 1,085.05 admissions in the army of Great Britain, in 1886, consisted of, first, 254.29 venereal; then follow in order of frequency, with somewhat over one hundred cases each, digestive and malarial diseases and injuries, ending with 105.17 skin diseases. Of 353.06 admissions per thousand of strength specially tabulated in the Italian report for 1886, 57.44 consisted of respiratory diseases, 47.64 venereal, 37.25 digestive, 24.72 malarial and 18.58 integumentary. In the Army of the United States the total of 1,270.73 comprised 80.88 venereal and 76.40 cases of integumentary disease.

The causation of the 8.15 deaths which occurred during the year in every thousand men of the Army, as a whole, is referable mainly to respiratory diseases, 2.09; injuries, 2.06; digestive, .86; circulatory, .64; and specific febrile, .56. The prominence assumed by diseases of the lung is due, as will be seen directly, to their fatality among the colored troops. Among the white soldiers injuries give the largest number of deaths, 1.95, and lung diseases, 1.58, take second place, diseases of digestion and of circulation following with .91 and .66, respectively, and specific febrile diseases coming in fifth with a rate of .58 per thousand;

but among the colored troops lung diseases are accountable for no less than 6.83 deaths, a rate higher than that produced by all diseases among the whites; injuries are second in order of fatality, having occasioned 3.04 deaths, while diseases of the nervous system, diarrhœal and malarial troubles, each claim the third place with a rate of .76 per thousand.

As compared with last year there has been an increased fatality from diseases of the lung, occurring chiefly among the colored troops, and a diminished rate for diseases of digestion and specific fevers, the classes of disease having fallen in thus in their order of fatality: Injuries, 2 47; respiratory, 1.59; specific febrile, .68; diseases of the nervous and of the circulatory systems, each .64. The preceding decade has the same order of fatality as the year 1887 except that diseases of digestion take the fifth place with .58 instead of those of the nervous system, and specific fevers have the higher rate of .92.

In comparing the death-rates caused by certain groups of diseases in our Army with the same class of facts as given in the reports of foreign armies there is little to attract attention except the entries under the heading *specific febrile diseases.* These are the diseases against which measures of prevention are chiefly directed, not merely because their introduction may be prevented and their prevalence restricted by suitable measures, but because of their exceedingly dangerous character when a focus of infection has once become established in a body of troops. The comparison gives a favorable showing to our records for the past year. Our death-rate from these diseases was .56 as against 1.11 in the army of Austria-Hungary, 2.70 in the Italian, and 3.73 in the British army.

The absolute number of deaths during the year was 182, of which 135 were caused by disease and 47 by injury. Pneumonia was the most deadly of the single causes, its result having been fatal in 39 cases; typhoid fever caused 13 deaths; pulmonary consumption, 12; heart disease, 12; peritonitis, 7; diseases of the liver, 7, and other diseases of the digestive organs, 9. Of the deaths from injury 13 were caused by gunshot and 14 by drowning.

While the death-rate of the Army falls mainly under a few headings, injuries and lung disease, for instance, contributing one-half of the total, the discharges for disability are scattered more evenly over the classified list of diseases. Of the 27.75 discharges effected by medical officers during the year, from 2 to 3.5 are charged against each of the following diseases: Venereal diseases, injuries, diseases of the nervous system, of the respiratory, locomotor, and circulating systems, constitutional diseases, and those of the digestive organs. The notable differences between the white and the colored troops in this regard are that the latter have a higher rate for injuries and venereal diseases than the whites, 4.93 and 4.55, respectively, as against 3.28 and 3.48, and a lower rate for nervous diseases, 2.28 as against 3.53.

The discharge-list for the year differs so little from that of 1887 that the statement just given as to the distribution of the causes might be applied with accuracy to that of the latter year; and if the numbers in the statement were expanded so as to read from 2 to 4 instead of from 2 to 3.5, it would be equally applicable to the average of the discharge-list of the decade immediately preceding the year 1887.

Comparing the list of the present year with those of the foreign armies mentioned, lower rates than with us are found in the latter under almost every heading, and especially under that of venereal diseases; for while our rate in this case is 3.59 out of every thousand men,

the British army, which we have seen to have a much larger number of admissions of this kind, discharged only .37, the Italian army .04, or one man in 25,000, and the Austro-Hungarian .02, or a truly exceptional case in every 50,000 men.

The absolute number of discharges was 742, of which 650 were for disease and 92 for the results of injury, the classified list including rupture among the former. Venereal diseases lead the list as responsible for the loss of 96 men, or nearly 13 per cent. of the total number of discharges; rheumatism and diseases of the circulation caused the loss of 69 men each; pulmonary phthisis, 45; insanity, 37; hernia, 32; eye diseases, 28; epilepsy, 20; miasmatic diseases, 18; bronchitis, 16; old age and its results, 14; diarrhœa and dysentery, 12, and diseases of the ear, 11. Of the 92 discharges referable to injury, 12 were occasioned by sprains and contusions, 15 by fractures, and 23 by gunshot.

During the year 134 enlisted men were discharged from the service and 3 sent to the Insane Asylum, District of Columbia, on account of diseases or defects which existed prior to enlistment. Of the 134 discharges, 129 were on certificates of disability and 5 by order of the War Department; 122 were among white and 12 among colored troops; 44 were from the cavalry, 16 from the artillery, 71 from the infantry, 2 from the hospital corps, and 1 from the provost guard of the military prison. Fifty-three of these men were examined at the rendezvous at David's Island, N. Y., 34 at Jefferson Barracks, Mo., 9 at Columbus Barracks, Ohio, and 38 at various other recruiting stations.

The following table shows the cause of discharge and length of time in service of these 134 men:

Cause of discharge.	Total cases.	Time in service.						
		Less than six months.	Six to twelve months.	First year.	Second year.	Third year.	Fourth year.	Re-enlistment.
Dysentery	1				1			
Syphilis, chronic	12		7	2	1			2
Gonorrhœa	2			2				
Alcoholism	2		1					1
Morphia, effects of	1				1			
Malformation (*a*)	10	1	5	2	1	1		
Debility	4		3		1			
Scrofula	2		2					
Rheumatism, chronic	4	1	1				1	1
Hip joint, disease of	1	1						
Neuralgia (*b*)	3		2	1				
Epilepsy	19	5	6	5	1	1		1
Mental incapacity	14	6	5	1			1	1
Diseases of the eye (*c*)	6	1	3	1			1	
Diseases of the ear and nose (*d*)	4	2	1			1		
Diseases of the heart (*e*)	19	1	11	4		1		2
Varicose veins	1		1					
Diseases of the respiratory system (*f*)	4	1	3					
Diseases of the digestive system (*g*)	5		3	1			1	
Diseases of the genito-urinary system (*h*)	7	2	3	2				
Injuries, sequence of	12	2	7		1			2
Osteomatous growth	1	1						
Totals	134	24	64	21	7	4	4	10

a Feet, 5; bunions, 4; chest, 1.
b Intercostal, 1; sciatica, 1; headache, 1.
c Nystagmus, 1; conjunctivitis, 3; defective vision, 2.
d Nasal catarrh, 3; deafness, 1.
e Angina pectoris, 2; dilatation, 2; hypertrophy, 2; valvular, 2; functional, 3; organic, 1; irregularity, 7.
f Emphysema, 2; phthisis, 2.
g Pharyngitis, 1; hernia, 2; hæmorrhoids, 1; prolapsus ani, 1.
h Incontinence of urine, 4; atrophy of testicles, 1; varicocele, 2.

In consideration of the fact that during the year 54.5 per cent. of the applicants for enlistment were rejected * it seemed hardly possible that a charge of carelessness could be substantiated against the recruiting service; nevertheless, as the discharge by post medical officers of so many men for disability alleged to have existed prior to enlistment reflected so strongly on the medical officers connected with the recruiting stations, a special inquiry was instituted in a number of cases into the history of the recruits while at the depots. These men had been examined by the recruiting officer and occasionally by a medical examiner at the rendezvous, and within two days after their arrival at the depot they had been subjected to a close examination under the rules prescribed in Greenleaf's *Epitome.* Subsequently they were detained at the depot for at least three months, during which they not only performed all garrison duties, but were under observation on the drill ground for hours at a time. Having thus proved their ability to perform the duties of a soldier, they were again examined, this time by a board consisting of the commanding officer and the medical officer of the depot, to insure that no doubtful material should be transferred to the regiments. A man who was liable to break down from an existing disability would be likely, if he appeared on the sick-report at all, to appear as affected by reason of his disability; yet of the 96 men in the above tabulation who passed their probationary term at the depots at David's Island, Columbus Barracks, and Jefferson Barracks, 4 only were treated for diseases akin to those for which they were finally discharged, although no less than 47 of them were on sick-report at one time or another during their stay—37 for disease and 10 for injury. In most of the cases also the basis on which the disability was subsequently claimed and allowed was noted by the depot surgeons or the examining board, duly considered, and decided as not constituting an objection to enlistment. There is a certain number of men who enlist under the pressure of necessity, and after a time, when the pressure is no longer felt, regret the step that they have taken, and desire to be again free from the restraints of military discipline. If any of these have a physical defect which is not of itself sufficient to prevent enlistment, but merely to cause inquiry, it is made little or much of by the soldier according as his object is to enlist or leave the service. At the depot it is concealed as much as possible from the medical officer, and if observed is slighted as of no moment. After assignment, when military restraint becomes irksome or personal interests are involved in a return to civil life, the defect and the disability it engenders are pressed into the observation of the post surgeon and company commander until a discharge for disability is obtained. The cases specially examined were of this nature; and it seems probable that if the whole history of each of these cases of discharge could be elicited they would be found in the majority of instances to belong to this class. An important lesson is taught by this record which should be impressed on the minds of medical officers connected with the recruiting service: To enlist no man who has any physical defect which at a future time might be made the basis of an alleged permanent disability.

The following extracts give the views of depot surgeons on the above list of discharges:

David's Island, N. Y., Surgeon J. V. D. Middleton: "Considering the careful examinations at this depot, and the number of recruits eliminated, it is incomprehensible to me that so large a number of men are discharged for disability so soon after joining their regiments."

*See table on p. 206.

Of a case discharged for feeble heart action, Surgeon V. B. Hubbard, *Columbus Barracks, Ohio*, says: "I state, without qualification, that it would have been a physical impossibility for him to have executed the violent exercises required of every recruit at the second examination upon his arrival at the depot and the setting up drills to which the recruits are subjected, with any marked or noticeable feebleness of heart's action." Of a case discharged for mental imbecility he remarks: "Nothing abnormal in his mental condition could be detected at the examinations; he went through the prescribed exercises in a satisfactory manner, and answered all questions intelligently." Concerning a case discharged for an old wound of the left ankle he says: "The injury was noticed at examination, and, in order to test whether the wound affected the movements of the joint, he was put through an exercise of hopping upon the toes of the left foot over a distance of forty yards or more, which exercise he executed perfectly, showing no lameness or disability of the joint. He is, undoubtedly, a malingerer, and has evidently imposed upon the surgeon who gave the certificate for his discharge. Instead of being discharged from the service for the alleged disability, he should, in my opinion, have been brought before a general court-martial and tried and punished for malingering. I remember this case very distinctly from the fact that several months ago the soldier again appeared at this depot, having enlisted at Detroit under the name of James H. Burt. He was recognized and held over at the second examination by reason of fraudulent enlistment, having been previously discharged for disability. At this examination he was again rigidly examined by myself and Assistant Surgeon B. D. Taylor as to injury of the left ankle joint and put through the same violent exercise as mentioned above on the occasion of his first examination, but no impediment in movement or weakness of the joint existed. Upon my recommendation the man was held to service by the board of inspectors, which action was approved by the proper authorities. He has since been assigned to Battery A, Second Artillery, and is now in the service."

Jefferson Barracks, Mo., Surgeon E. McClellan: "A very important part of the duty of medical officers at this station is the examination of recruits who arrive from the various rendezvous, and of such persons as present themselves for enlistment. The records show that in 1884, 2,000 recruits were examined; in 1885, 1,324 recruits were examined on arrival and 113 for enlistment; in 1886, 2,049 were examined on arrival and 111 for enlistment; in 1887, 2,151 on arrival and 147 for enlistment; in the first six months of 1888, 1,152 were examined on arrival and 121 for enlistment; making a total of 9,168 examinations. Each recruit who is assigned to a regiment is subjected to a careful inspection before he leaves the depot. This final examination is as thorough as the original. Several times during my term of duty at this depot I have been called upon to explain the reported disability of certain recruits who have been assigned to regiments. In this connection I desire to state that no man has been allowed to leave the depot, to my knowledge, concerning whom any doubt was had as to his being able to perform the duties of a soldier. I have on several occasions allowed men who were convalescing to leave before they were fully recovered, that they might obtain the benefit of a change of climate, but on such occasions it has been my custom to transfer the man to the hospital of the station to which he was going, or to communicate personally with the medical officer at that station."

Influence of age and length of service on the rates.—Soldiers of the age 25–29 had an admission rate, 1,236.86, similar to that of the average of the Army, 1,270.73; younger men came more frequently on sick report; older men less frequently. The age 25–29 had also the average of non-effectiveness of the Army; younger men had a larger rate on account of the greater frequency of their admissions; older men had a smaller rate up to 45 years, but after this age the rate of non-effectiveness became greater—in other words, the veteran soldier appeared less frequently on the sick-list, but when he did appear the cause was such that he had to remain non-effective for a considerable period. In the case of deaths the rate increased markedly after 40 years of age; 6 to 7 per thousand of strength up to 39 years of age; 12 during the age 40–44; 15 during 45–49, and 21 during 50–54. So also the ratio of deaths to admissions was small among the younger men who came frequently on sick report, ranging from 4 deaths per thousand cases among those under 20 years of age, 6 among those from 20 to 35, and 8 from 35 to 39, up to 13 among men of 40–44, 16 among those of 45–50 years, and 24 per thousand admissions of those from 50–54 years of age.

Similar results are obtained when, instead of age, length of service is regarded: Those who were serving their third year had an admission rate of 1,250.48, almost equal to that of the Army as a whole; those who had not served so long had larger rates, and those who had served longer had smaller rates, with the exception of the men who were serving the first year of their first re-enlistment. Men having five to fifteen years of service gave the lowest rates of non-effectiveness.

HEALTH OF INDIVIDUAL POSTS.

The Army of the United States was stationed during the year at one hundred and thirty-four military posts, the garrisons of which varied in strength from an annual average of 18 men at Kennebec Arsenal, Me., to 701 men at Jefferson Barracks, Mo. Small numbers of officers and men were stationed also in certain cities at the headquarters of departments, on recruiting and other detached duties. Moreover, detachments from some of the posts spent part of the year in summer encampments for training purposes, and others in marches incidental to changing stations. Of the one hundred and thirty-four posts, fifty-eight were garrisoned each by less than 100 men; average, 60; aggregate, 3,463. Thirty-five had each 100–200 men; average, 154; aggregate, 5,384. Sixteen had 200–300; average, 256; aggregate, 4,092. Thirteen had 300–400; average, 339; aggregate, 4,406. Twelve had 400–700; average, 487; aggregate, 5,839.

The admissions to sick-report at the sixty-four posts which had a mean strength of from 100 to 400 men, aggregate 13,882, did not vary much from the admission rate in the Army as a whole, 1,270.73 per thousand of strength, nor did their rate of constant disability vary much from the Army rate of non-effectiveness from disease and injury, 41.91 per thousand men; but the fifty-eight posts which had each less than 100 men in garrison had a smaller admission rate, 1,171.82, as well as smaller rate of non-effectiveness, 35.13; while the twelve large posts had both these rates considerably increased, 1,393.73, as compared with the Army admission rate of 1,270.73, and 54.44 as compared with 41.91.

In looking over the list of fifty-eight posts which had a garrison of less than 100 men each, one is struck by the irregularity of the rates. The admissions at Frankfort Arsenal, Pa., were 424.24 per thousand of strength, and at Kennebec Arsenal, Me, 3,777.78; the non-effectiveness at Fort McDermit, Nev., was 5.46 per thousand of strength, and at Camp Monte Sano, Ala., 78.88; and between these maxima and minima every gradation of rate may be discovered. The explanation of this irregularity is manifestly to be found in the small number of facts on which the rates are calculated; for when these facts are aggregated so as to embody the rates of the total of 5,384 men, the irregularities become obliterated, and the admission rate, 1,171.82, and the non-effective rate, 35.13, are but slightly less than the corresponding rates for the Army as a whole. I do not regard the smallness of the rates for the aggregate of these small posts as indicating that the smaller posts of our Army are more healthful than the larger posts, but explain this on the ground that at small posts a man who has some trivial affection continues to do duty on account of the scarcity of men, while the same man at a larger post would be borne on the sick-report because some other man could easily be found to relieve him and perform his duties.

It would be a work of little value to point out the variations from the average rates presented by these small posts. Many of them, as

Fort McDermit, Nev., Fort Wood, N. Y., Camp Langtry, Tex., Augusta Arsenal, Ga., Benicia Arsenal, Cal., Plattsburg Barracks, N. Y., and Jackson Barracks, La., had small rates of admission and non-effectiveness; but these mean no more than that certain detachments of healthy men passed the year in the enjoyment of good health and fortunate freedom from accident. Others, such as Forts Mackinac and Brady, Mich., Fort Schuyler, N. Y., and Rock Island Arsenal, Ill., had small rates of non-effectiveness as compared with their admissions, showing that the cases were trivial in character and of short duration. Kennebec Arsenal, Me., gave the unusual admission rate of 3,777.78, with 21.10 of non-effectiveness, due mainly, as may be seen from the records, to the influence which 24 cases of simple catarrh or common colds exercised on the rates of a post which had a strength of but 18 men. Others, again, had the non effective rate large as compared with the number of admissions; but this also is a matter of individual interest, for one or two cases of prolonged sickness or accident add so materially to the rate of non-effectiveness per thousand of strength when the strength consists merely of 54 men, as at Watervliet Arsenal, N. Y., which had 611.11 admissions with 35.27 non-effectives; or of 52 men, as at Eagle Pass, Tex., which had 788.46 and 38.15, respectively. The fact that the admissions were infrequent shows that the causation of the non-effectiveness did not affect the garrison, but merely the individual men. The posts which gave exaggerated rates for both admissions and non-effectiveness are few in number and may be specially indicated:

Boisé Barracks, Idaho, had an admission rate of 2,204.08 and a non-effective rate of 53.11, the excess over the average being mainly caused by injuries, of which 64 cases were recorded, yielding a constant non-effective rate of 14.66 per thousand. Malarial diseases, diarrhœa, tonsillitis, and headache were the prominent causes of admission at *Indianapolis, Ind.*, which had a rate of 2,518.52, with 53.23 non-effectives; of individual diseases rheumatism gave the largest non-effective rate—10.73. The excessive rates at *Camp Monte Sano, Ala.*, 1,796.30 and 78.88, were mainly due to 20 cases of diarrhœa and 24 of malarial fever, the latter of which occasioned no less than 30.00 constantly non-effective per thousand of strength, and to a preponderance of injuries due to service in the field and causing a non-effective rate of 17.00, these three items alone making a rate higher than the average of the Army; but as regards this camp, it should be observed that it was a camp of refuge from yellow-fever, in which detachments from Fort Barrancas and St. Francis Barracks, Fla., passed the period of danger from July to October. The weather during the greater part of the time was unpleasant, and the men had many exposures, which tended to increase the sick report; and the rates were based not on the experience of the whole year, but on a part of it, which to those detachments proved to be a sickly part. The prevalence of high rates at *Fort Logan*, the post near Denver, Colo., 2,556.70 and 76.95, was also due to exposure incident to the occupation of temporary quarters; catarrh and bronchitis furnished 65 cases; diarrhœa, 37; injury, 24, and rheumatism, 14.

Of the thirty-five commands, consisting each of 100–200 men—average, 154; aggregate, 5,384—a large number did not exceed the average rates of the Army in their admissions and non-effectives. In a few instances the rates were indeed unusually low, as among the men of the *Prison Guard at Leavenworth, Kans.*, whose admissions were only 752.14 and non-effectives 9.88 per thousand of strength. At *Fort Stanton, N. Mex.*, the admission rate was lower, but the cases were of greater duration, as the non-effectives numbered 25.05 per thousand. At a few posts

where the admission rates were low, as at *Angel Island, Cal.*, and *Whipple Barracks, Ariz.*, 635.71 and 897.85, respectively, the constant non-effective rate was, in the one instance 40.87, and in the other 46.37, or considerably greater than that of the Army as a whole—41.91. At Angel Island a rate of 20.73 was due to malarial fevers contracted during the summer encampment at Santa Barbara. Cases in which the admission rate was high and the non-effective rate low are not reported from this group of posts. Several posts had both rates higher than the average, and to these special mention is given as follows: *Fort Sidney, Nebr.*, 187 men; admission rate 1,652.41; non-effectiveness 47.38. No individual disease contributed mainly to these increased rates; their explanation is found in a general increase of all diseases borne on the list, or perhaps to the personal equation of the medical officer in charge. *Fort Laramie, Wyo.*, 184 men; admissions 1,364.13; non-effectives 46.26. The disease which added to the constant sick-rate of this post was enteric fever; it contributed 5.29 per thousand, and materially increased the death-rate, giving it 10.87 on account of two fatal cases. The list of discharges was also heavy—14 cases—13 for disease and 1 for injury, equaling a rate of 76.09 per thousand of strength. At *Forts Lowell, Ariz.*, 149 men, admission rate 1,684.86, non-effective 52.41; *McIntosh, Tex.*, 142 men, admissions 2,063.38, non-effective 62.23, and *Hays, Kans.*, 137 men, admissions 1,416.06, non effective 46.03, venereal diseases were evidently the cause of the increased rates. At Lowell 11 cases of gonorrhœa and 16 of syphilis contributed 10.74 to the non-effective rate; at McIntosh 49 cases, of which 3 were discharged, contributed 345.07 to the admissions and 17.11 to non-effectiveness, and at Hays 24 cases added 175.18 to the admissions and 10.59 to non-effectiveness. At *Fort Concho, Tex.*, 129 men, admissions 1,635.66, non-effective 57.46, injuries, aided by venereal diseases, made up the excess over the average rates, the former adding 480.62 to the admission and 18.91 to the non-effective rate, and the latter 6.85 to non-effectiveness, although only 69.77 to the admissions. This post was distinguished also by having the largest rate of discharges, 124.03 per thousand of strength. The causes of the 16 discharges which made up this large rate of disabled men were: Syphilis, 3; rheumatism, 1; nervous diseases, 2; respiratory, 1; heart, 3; genito urinary, 1; and injuries, 5, 2 of which were due to gunshot wounds. At *Fort Thomas, Ariz.*, 106 men, admissions 1,632.08, non-effectives 46.35, malarial disease and dyspepsia, colic, and constipation were the principal causes of the increased rates, 16 cases of the first having added 150.94 to admissions and 5.10 to non-effectiveness, and 28 cases of the others 264.15 and 5.00. The cause of these digestive disturbances must have been local, as none of the other Arizona posts presented these high rates for diseases of digestion. At *Fort McHenry, Md.*, 113 men, admissions 1,407.08, non-effectives 62.99; *Little Rock, Ark.*, 107 men, admissions 1,407.29, non-effectives 50.07, and *Fort Brown, Tex.*, 144 men, admissions 3,812.50, non-effectives 96.48, each the highest rate of its kind in the Army malarial and venereal diseases were the chief causes of the exaggeration of the rates. At Fort McHenry, 17 cases of malarial disease and 24 of venereal added, respectively, to the admission rate, 150.44 and 212.39, and to the non-effective rate 5.34 and 11.42. At Little Rock Barracks, 55 cases of malarial and 19 of venereal disease added to the rate of admission 514.02 and 177.57, respectively, and to that of non-effectiveness 14.63 and 8.20. At Fort Brown, which must be set down as the most unhealthy post in the country, 286 cases of malarial disease, or nearly two attacks yearly to each man of the garrison, added 1,986.11 to the admission rate and 26.72 to the non-effectives. These fevers alone

gave this post a much higher rate of admission than was given to the Army by all diseases and injuries. Thirty-two venereal diseases also figured largely in increasing the rates, particularly that of non-effectiveness, to which it added 20.61. The insanitary site of this post, its rotten and worthless buildings, and the proximity of the towns of Brownsville and Matamoras, sufficiently account for the sick record which it presents.*

Of the sixteen posts having each 200–300 men, average 256, aggregate 4,092, three had small rates, particularly of admissions: *Fort Huachuca, Ariz.*, 283 men, had a rate of 749.12 per thousand of strength; *Fort Snelling, Minn.*, 299 men, had 852.84, and *Fort Union, N. Mex.*, 231 men, had 952.38, the rates of non-effectiveness being, respectively, 29.12, 33.39, and 32.93. *Fort Du Chesne, Utah*, 222 men, had a large admission rate, 1,657.66, but the non-effectiveness of this post was below the average. *Fort Grant, Ariz.*, 274 men, had, on the contrary, a small number of admissions, 1,010.95, compared with its non-effective rate of 50.76, one-half of which was occasioned by injuries and venereal diseases. Of the posts which had larger rates than the average, the slight excess among the 237 men at *Fort Spokane, Wash.*, was occasioned by 94 cases of injury, which gave a non-effective rate of 14.16 per thousand. *Fort Sill, Ind. T.*, 277 men, had 1,592.06 admissions and 44.75 non-effectives, these increased rates being mainly due to 163 cases of malarial fever, which added 588.45 to the former and 12.76 to the latter. *Washington Barracks, D. C.*, 264 men, had an admission rate of 1,723.48, the highest among this group of posts, and a non-effective rate of 48.20; malarial fevers contributed 303.03 and 5.23 to these rates, and venereal diseases 147.72 and 10.96. At *Fort Monroe, Va.*, 281 men, the admission rate was 1,516.01 and the non-effective 48.24; the increase in the one was attributable to 70 cases of diarrhœa, and in the other to venereal diseases, which constantly disabled 8.48 per thousand of the strength. At *Fort Walla Walla, Wash.*, 291 men, a slight increase in the admission rate was caused by diarrhœa and bronchitis, and the non-effective rate was raised to 45.90 by 9.85 resulting from venereal diseases.

Of the thirteen commands having 300–400 men each, averaging 339 men and aggregating 4,406, *Fort Lewis, Colo.*, 316 men, had the lowest admission rate, 784.81, and *West Point, N. Y.*, 340 men, the lowest non-effective rate, 22.00. *Fort Custer, Mont.*, 375 men, was below the average in its admissions, but its non-effectives numbered 49.58 per thousand of strength, due, as in so many other instances, to venereal diseases, which added 10.10 to the rate. *Fort Reno, Ind. T.*, 317 men, had both rates somewhat larger than the average, attributable mainly to malarial fevers, which added 192.43 to the one and 4.77 to the other. *Willets Point, N. Y.*, 357 men, had the largest rate of admission in this group of posts, 2,243.70, with 61.59 non-effective, the increase being occasioned by unusually large rates for bronchitis, diarrhœa, injuries, and alcoholism. *Fort Omaha, Nebr.*, 350 men, with an admission rate of 1,465.71, had the largest non-effective rate in the group, 65.73, owing to rheumatism, bronchitis, injuries, and venereal diseases in excess of the average.

Of the twelve commands having a garrison of 400–700 men, averaging 487 and aggregating 5,839, *Fort Robinson, Nebr.*, and the *Post of San Antonio, Tex.*, had the smallest admission rates, 925.56 and 943.60, respectively; the non-effective rate of the one being slightly over, and

* See page 32.

of the other slightly under, the average. *Forts Meade, Dak.*, and *Assiniboine, Mont.*, were below the average in both rates; *Vancouver Barracks, Wash.*, reached the average; *Fort Leavenworth, Kans.*, had a high admission rate, and the other posts in this group large non-effective rates. The *Presidio of San Francisco, Cal.*, 439 men, had only 1,123.01 admissions, but its non-effectives numbered 54.43, an excess principally due to 13.74 venereal. *Fort Riley, Kans.*, 402 men, had also a low admission rate, 1,139.30, but its non-effective rate was raised to 51.36 by 9.19 venereal and 16.67 injuries. *Fort Clark, Tex.*, had both rates large, 1,433.87 and 51.71 caused by the occurrence of 5 cases of enteric fever, 22 of measles, and 62 of venereal disease. The three remaining posts are the recruiting depots at *David's Island, N. Y.*, 634 men; *Jefferson Barracks, Mo.*, 701 men, and *Columbus Barracks, Ohio*, 489 men. David's Island presents the best record of the three. Its admission rate, 1,533.12, would be no higher than the average of the Army if the rates caused by the vaccination of recruits, 283.91, were eliminated; and its non effective rate of 45.98 would also be brought down to the average were the rate caused by the vaccinations, 5.77, overlooked. Jefferson Barracks, Mo., 701 men, had an admission rate of 1,950.07 and 79.71 non-effectives. Evidently there is more than vaccinations involved in these high rates. Vaccina is credited with 142.25 admissions and 7.27 non-effectives per thousand of strength; but it was the malarial and venereal rates, with the existence of measles among the recruits, that raised the rates of admission and non-effectiveness to these unusually high figures; malarial diseases having contributed 349.50 admissions and 12.23 non-effectives; venereal, 151.21 and 11.66, and measles 67.05 and 4.21. The high death-rate of 27.10 per thousand men was occasioned by pneumonia, 42 cases of which furnished 15 of the total of 18 deaths at the post. The insanitary conditions at this recruiting depot and the efforts to remedy them are fully set forth in a report by Maj. Ely McClellan, depot surgeon.* The post at Columbus Barracks, Ohio, had the highest rates of any of the larger posts except Fort Brown, Tex., its admissions 2,075.66 and its non-effectives 81.87 per thousand of strength. One-half of the admission rate and considerably more than one-half of the non-effective rate were made up by the four items—venereal diseases, vaccination, malarial fever, and measles. Venereal diseases contributed 566.05 to the rate of admissions and 21.81 to the rate of non-effectiveness, or in other words, out of every four men who were constantly under treatment at the post for disease or injury, one was affected with venereal disease; vaccination was responsible for the addition of 198.36 to the admission rate and of 11.77 to the non-effective; malarial fever 284.25 and 6.73 and measles 186.09 and 6.61.

Deaths at individual posts.—Incidentally the recruiting depot at Jefferson Barracks, Mo., has been mentioned as having a high death-rate, 27.10, as compared with 8.15 in the Army as a whole. This post might, indeed, have been charged with having the highest rate of any, for the few posts which exceeded it had high rates merely because one, two, or three fatal cases of disease or injury chanced to occur among certain small bodies of men. Fort Barrancas, Fla., for instance, had a rate of 54.55 on account of 3 deaths, 2 from gunshot wounds and 1 from heart disease, in its garrison of 55 men. Eleven deaths on David's Island, N. Y., gave that recruiting depot a mortality rate of 17.35, pneumonia having caused 3 of these deaths, enteric fever 2, and erysipelas 1. Co-

* Page 59.

lumbus Barracks, Ohio, had a light mortality, only 6.13 per thousand of strength, notwithstanding its unfavorable record as to sickness.

Of the large posts, the Presidio, of San Francisco, Cal., had the highest rate, 15.94, the absolute number of deaths being 7, 2 from specific fevers, 2 from alcoholism, 1 from malignant inflammation, and 2 from injury. Fort Brown, Tex., which had the heaviest sick rate of any post in the United States, recorded but 1 death, a fatal case of small-pox.

Discharges for disability at individual posts.—Incidentally, also, Fort Concho, Tex., has already been mentioned as having had the highest rate of discharges for disability, 16 men in a strength present of 129, or 124.03 per thousand. Twelve and a half per cent. per year, or the whole garrison disabled and discharged in eight years, is a heavy burden for the military establishment to sustain at this post, coupled as it is with the non-effectiveness of the men prior to their discharge. Of the 144 men at Fort Brown, Tex., no less than 7 were discharged for syphilis during the year, 3 for rheumatism, 2 for consumption, and 1 each for injury, old age, and vesical incontinence, making a total of 14, or 104.17 per thousand of strength, a record of disability which makes this a most expensive post. Fort Sidney, Nebr., follows with a rate of 88.82 per thousand of strength, on account of 2 disablements by rheumatism, and 1 each scattered among the classified list of diseases, to make a total of 10 discharges during the year in a garrison of 187 men. Fort Laramie, Wyo., gave a rate of 76.09, the result of 1 discharge for injury and 13 for various diseases. Fort Davis, Tex., gave 74.87 on account of 14 cases of disease. The Presidio of San Francisco, Cal., furnished 30 cases of discharge, equaling a rate of 72.89 per thousand of strength; injury contributed 6 of these, venereal diseases 9, heart disease 5, consumption 3, and the rest scattered among the list of classified diseases.

Jefferson Barracks gave the highest rate among the recruiting depots, 44.22 per thousand from 30 discharges, of which 1 only was for syphilis, 4 for rheumatism, 6 for pneumonia, 3 for consumption, and the rest scattered among various diseases. David's Island gave only 9 discharges, which were generally distributed throughout the classified list, but not one of the 9 was occasioned by venereal diseases. On the other hand, at Columbus Barracks, Ohio, of 14 discharges, 1 of which was for injury, no less than 7 were due to syphilitic disease, a comparison which fully sustains a note of inquiry as to the advisability of having a recruiting depot established in the wards of a city.

The foregoing brief survey of the sickness, deaths, and discharges at the various military posts shows how few of the posts were really notable for the amount of sickness that occurred in their garrisons. At one or two diarrhœa or bronchitis prevailed; at four or five malarial fevers, due to local surroundings, increased the sick rates; measles appeared among recruits and civilians at a number of posts, but was kept from spreading by prompt sanitary measures taken by the medical officers in charge; sporadic cases of typhoid fever and of pneumonia, together with the latter disease as a sequel of measles, did much to raise the general rates of non-effectiveness and mortality; and the necessary operation of vaccination to protect from small-pox added to the sick rates of the recruiting depots; but the chief factor which made one post unhealthy as compared with another was evidently venereal diseases contracted in the neighboring city. This is an evil for which, at the present time, there is no efficient preventive. So long as the garrison at Fort Brown remains in its present proximity to a degraded and

diseased class of women so long will these diseases prevail among the men, and so long as a recruiting depot is contained within the limits of a municipality, as at Columbus, Ohio, so long will every fourth man on the sick list be, as during the past year, the subject of these diseases. The propriety may be questioned of massing several hundred men at the very beginning of their term of service in a city where facilities are afforded for disabling so many of them temporarily, and not a few permanently, as may be seen from the discharge lists. David's Island, which is cut off from the great cities in its neighborhood by its insular position, is thereby protected in a great measure from sickness of this kind. Its rates are in striking contrast with those of Columbus Barracks, 86.75 admissions, 3.91 non-effectives per thousand of strength, and no discharge for disability, as compared with 366.05, 21.81, and 7 men lost by discharge. The practical conclusion to be deduced 7 from this comparison may be easily appreciated.

Excluding venereal diseases, the prevalence of which has already been sufficiently indicated, the affection which caused the largest rate of non-effectiveness in the Army generally was RHEUMATISM, 4.49 per thousand of strength. The posts characterized by an excess of this trouble were Fort Omaha, Nebr., 9.97; Fort Preble, Me., 9.80; Fort Lyon, Colo., 9.41, and Fort Brown, Tex., 9.07, which had, respectively, admission rates of 120, 170.73, 144.33, and 138.89, showing, so far as these small statistics may be trusted, that the warm climate of the Gulf, at the mouth of the Rio Grande, is as prolific of disability from this cause as the New England coast, chilled by the southward flow from the Arctic Ocean. Watertown Arsenal gave the highest admission rate, 205.88, but this may be excluded as an exaggeration due to the small number of facts concerned, particularly as the non-effectiveness produced by these admissions amounted only to 3.70.

In February, Surgeon V. B. Hubbard reported an outbreak of rheumatism in the recruiting depot at Columbus Barracks, Ohio.

> No positive cause can be assigned, except it be the frequent changes of wet and cold so prevalent during the month. Seven patients have been under treatment. All the companies are affected alike. The men claim that never before entering the service were they affected with this disease, nor that it existed in their families to their knowledge.

In a report a year later in date he says:

> It is suspected that the unusual prevalence of acute articular rheumatism among the men at this post, there being now under treatment in hospital eleven patients, may be due, in some measure at least, to the men sleeping in sheets before they have been thoroughly dried.

The disease next in importance as a disabling factor was that due to what is called MALARIA, which gave 3.12 of constant non-effectiveness from 118.22 admissions per thousand of strength. Of the permanent posts, Fort Brown, Tex., gave notoriously the highest rates, 1,986.11 admissions and 26.72 non-effectives, with Little Rock, Ark., and Fort Sill, Ind. T., contending for second place, the former showing 514.02 admissions and 14.63 non-effectives, and the latter 588.45 and 12.76; but a good deal of the general malarial rate was the result of exposure in field service, for two of the highest rates come from troops encamped at Monte Sano, Ala.,* 30.00, and from those in summer encampment at Santa Barbara, Cal.,* for the benefit of their health and military training, 24.53 non-effectives per thousand of strength. The yellow-fever refuge camp had an admission rate of 444.44, and the California health

* See pages 47 and 48.

camp 952.94; but the non-effective rate of the latter, 24.53, to receive its proper valuation, requires to have added to it 20.73 at Angel Island, and 16 at Benicia Barracks, to which posts the troops of the Santa Barbara encampment were distributed on the breaking up of the temporary establishment by the prevalence of these malarial fevers.

Surgeon J. C. Baily, medical director, Department of Texas, in forwarding a sanitary report from Fort Brown, Tex., remarked:

During the month of November, 1888, 58 per cent. of the command at Fort Brown was taken on sick report for intermittent fever alone. This does not fully represent the ill health of the command. On an inspection of the post, February 24, 1889, when the number of admissions had fallen much below that of November, I found members of nearly all the officers' families suffering with some form of malarial troubles. I was informed that many of the men, when suffering from chills, preferred continuing on duty to reporting sick. The washed-out appearance of nearly every soldier in the command plainly showed the unhealthful surroundings. This post is closely hemmed in on the north by a large town (5,000 or 6,000) which is practically undrained and filthy beyond description; on the east by a marsh, and south by a lagoon which for eight months of the year is cut off from the river. Into this marsh and lagoon all the sewage of the post drains. The lagoon is within 30 feet of the officers' quarters, and the marsh crowds up on occupied buildings on the other side. There must be taken into account the probability of the command being hemmed in by a yellow-fever quarantine. It will be a mild epidemic that does not decimate it in its present condition. If this unwholesome spot must be occupied I can only recommend that the garrison be reduced to the minimum and entirely changed every year.

Some of our military posts are so situated that many years will pass before their malarious surroundings are entirely removed, but great progress has been made in this direction since the close of the war of the rebellion. Many posts have been discontinued; others have been drained and otherwise improved so that malarial fevers have ceased to hold that prominent place on the sick report that they formerly occupied. Troops that are called into the field on scouting duty, changing stations, etc., in the autumn are frequently exposed to malaria in their temporary camps and have recurrences of the fever on their return to their permanent stations; but cases indigenous to these stations are becoming year by year less common. Much of this improvement has been attributed, and I believe correctly so, to the introduction of wholesome water-supplies. In a recent communication Col. Charles Page, Assistant Surgeon-General, makes an exception of Fort Sill, Ind. T., in this connection, claiming that the diminished malarial sick-list which followed the introduction of a good water-supply can not be referred to the water, because there was a diminution of malarial diseases at Fort Supply, which had no new water-supply, as well as Fort Sill, for several years after the introduction of the water-supply at the latter post. He attributes the improvement to some general condition which affected Fort Supply as well as Fort Sill, and considers, therefore, that the theory of a water-propagation of malarial fevers does not always hold good. He says:

An examination of the consolidated reports of the medical department of Fort Sill for several years will convince one that the supply of spring-water did not diminish the ratio of malarial disease materially. The diarrhœas diminished, and the general health of the command was improved, most probably by the beneficial effects of a full supply of good water for drinking and bathing. Here is an example of a garrison suffering from malarial poisoning supposed to be contained in the drinking-water, which continued to feel the effects of the malaria although the supply of water was changed from that of a doubtful character to one absolutely pure, being filtered for miles through sand, gravel, and limestone rock. It is apparent that the poison producing malarial diseases must be sought for in another source than in the drinking-water. It is there at Fort Sill, in the heat, moisture, and soil, which produce malarial fevers anywhere or furnish good culture-material for the bacteria that cause it. In New Mexico, where the climate is dry, though hot, malarial fevers do not exist; but turn the water from the rivers upon the the soil by means of acequias, and malarial fevers

soon abound, regardless of the source of the water used for drinking. It will be observed that for several years before the improvement of the water-supply at Fort Sill the ratio of malarial diseases was smaller than after the development of the spring which gave the garrison a pure filtered water. * * * In 1881 the ratio was remarkably small, being but 59 per 1,000 of mean strength; surely that could not be accounted for by any improved source of drinking-water. There may have been some meteorological cause; we know that in different years there is a marked variation in the prevalence of malarial diseases. * * * The diminution of the cases of malarial diseases at Fort Sill after 1884, when it appears that the greatest number prevailed, must be considered a sequence and not a consequence of the development of the spring of excellent drinking-water. The ratio of malarial diseases at Fort Supply for the years 1884, 1885, and 1886 shows a decrease of sickness after 1884. Fort Supply, where the water-supply was not improved, like Fort Sill, has a reputation of being malarious. The water-supply of this post has recently been materially improved, * * * but it remains to be seen if the ratio of malarial fevers will be diminished. Ratios per 1,000 of mean strength of malarial diseases at Fort Sill, Ind. T.: 1880, 132.35; 1881, 59.08; 1882, 657.34; 1883, 940.38; 1884, 957.85; 1885, 791.19; 1886, 465 28; 1887, 523.13; 1888, 568.35.

The theory of the transmission of fever by the water-supply does not insist upon that mode of transmission as the only one; it recognizes the existence of malarious surroundings and the development of disease through the medium of exhalations from these malarious localities. From the record it appears that malaria at Fort Sill is propagated by other means than the water-supply; but it does not follow that the new water-supply has been of no benefit to the post. Dr. Page himself allows that the diarrhœas diminished and the general health improved, "most probably by the beneficial effects of a full supply of good water for drinking and bathing," and the post surgeon claims no more than this; for in the latest published report* he mentions the water-supply merely as one of many sanitary improvements which have of late years tended to lessen the sick rate at what was once a notably insalubrious station:

Three years ago the men had only rough pillows and bed sacks, filled with the coarsest kind of hay, for bedding; now they have good wire-spring mattresses and hair pillows, sheets and pillow-slips, all of which they highly appreciate. Then the squad-room walls and bedding were infested with vermin to a most annoying degree; now there are no complaints, and no occasion for any. Then the only bathing facilities during cold weather consisted of a wash-tub taken into the mess-room; now there are very good bath and lavatory accommodations, properly heated in the winter, so that the men can bathe at any time, which they do frequently. Then the water-supply was scanty and of the most unhealthful character; now it is abundant and of the best quality. These betterments of the condition of the enlisted men here have been productive of the most beneficial results alike in respect to the discipline of the post, the alacrity in the discharge of duty, and a pervading cheerfulness and satisfaction. The experience of this post goes to show that it pays the Government to make the enlisted men comfortable in their quarters and surroundings, which to them for the time being constitute their homes. In this respect the soldier is like a domestic animal—the better cared for, the more efficient and willing he becomes.

Catarrhal and Bronchitic Troubles occasioned in the Army 104.62 admissions and 2.01 non-effectives per thousand of strength. These averages were much exceeded at Kennebec Arsenal, Me., which recorded 1,388.89 admissions and 10.78 constantly disabled from this cause; but in considering these rates the small number of men at this station must be held in view. The engineer battalion at Willets Point, N. Y., was next in importance in this regard, giving 324.93 for admissions and 5.90 for non effectiveness; Fort Schuyler, N. Y., had rates of 267.60 and 2.20; and Watertown Arsenal, Mass., 264.70 and 1.77; but in all these cases the small number of men concerned detracts from the value of the rates.

The average rates of the Army for Inflammation of the Lungs

* In the last annual report from this office, page 136.

were: Admissions, 7.32; deaths, 1.46 per thousand of strength. During the year 181 cases were treated, 39 of which terminated fatally. The cavalry recruiting depot at Jefferson Barracks, Mo., had the largest number of cases, 42; the largest number of deaths, 15; and, on account of these, the largest rates of admission and mortality for this disease, 59.91 and 21.40, respectively. The non-effectiveness at this post was also the highest, 6.03, if the 7.83 occasioned by one case at the small post of Fort Townsend, Wash., be excluded. Some light is thrown on the causation of these cases by the remarks on the sanitary reports of the depot surgeon, Maj. Ely McClellan:

During the month of January there was an unusual amount of sickness among the colored recruits. Among those sent from Charleston, S. C., 23 cases of sickness occurred, chiefly diseases of the respiratory organs; 3 fatal.

In a later report Surgeon McClellan states that among the 59 colored recruits from Charleston, S. C., received during the months December, 1887–March, 1888, 63 cases of sickness occurred, with 4 deaths; while among 14 white recruits from the same rendezvous there was but 1 case and no death. In a special report he remarks:

During the month a large number of cases of bronchial catarrh occurred among the recruits, and it was observed that those from southern cities were especially liable to this disease. A total of 64 cases were treated, and from them 7 cases of pneumonia were developed, which, with 2 cases remaining under treatment from December, 1887, made a total of 9 cases of pneumonia treated during the month. Of these, the pneumonia in 2 cases affected both lungs; in 4 the right lung, and in 3 the left lung alone. Two cases terminated fatally during the month; 2 were returned to duty, and 5 remained under treatment; in addition to these there were 7 cases of pneumonia as a complication of measles.

Fort Robinson, Nebr., recorded 17 cases of pneumonia, giving an admission rate of 42.18 per thousand of strength, and as fortunately only 2 deaths occurred, a mortality rate of 4.96. Excluding the small posts to which the occurrence of one or two cases gave an admission rate of 26.32, as at Mount Vernon Barracks, Ala., or 21.74, as at Plattsburgh Barracks, N. Y., the recruiting depot at David's Island, N. Y., followed Fort Robinson in importance in this respect by furnishing 15 cases, with 3 deaths, giving this post an admission rate of 23.66 and a death-rate from this disease of 4.73. Next in order of importance followed the recruiting depot at Columbus Barracks, Ohio, with 11 cases, of which 2 were fatal, equivalent to an admission rate of 22.49 and a mortality rate of 4.09.

Attention is invited to the fact that but for the exceptional occurrence of so many cases at Fort Robinson the preponderance of cases of this dangerous disease occurred at the recruiting depots; and the lesson to be learned from this is the same that has already been taught by a study of the statistics of the year, that if we desire to have a healthy Army we must look after the well-being of the recruit.

At some posts DIARRHŒAL DISEASES took a prominent place, both from the number of cases and as a disabling factor, although the rates for the Army generally were not large, being 114.58 admissions per thousand of strength, and 1.61 of non-effectiveness. Two stations, at which the men were not provided with permanent quarters, furnished the largest rates; the unfinished post, Fort Logan, near Denver, Colo., giving the largest number of admissions, 381.44, although causing only 1.97 of disability, and the refuge camp at Monte Sano, Ala., giving 370.37, with the larger disability rate of 4.40. Fort Bliss, Tex., had 295.65 admissions, with 4.47 of constant disability, and the Engineer Department at Willets Point, N. Y., 266.11 admissions, with 3.74 of non-effectiveness. A special report concerning diarrhœal troubles came

from Assistant Surgeon J. L. Powell, of Fort Supply, Ind. T., a post which gave 216.73 of admissions and 3.07 of disability. This officer attributed these diseases to the water-supply:

During the past month (October) the character of the prevailing diseases has been gastro-intestinal. Seven cases of acute diarrhœa have been treated, one of acute dysentery, and one of gastric catarrh, all affecting the enlisted men of the garrison. In this connection it may be of interest to notice the record of cases of this nature that have occurred during the past summer: In June there were 10 cases of acute diarrhœa, 1 of dysentery, and 1 of cholera morbus; in July, 3 of diarrhœa, 1 of cramps and colic, and 1 of gastric catarrh; in August, 6 of diarrhœa, 4 of dysentery, 1 of cramps and colic, and 2 of gastric catarrh; in September, 4 of diarrhœa, 3 of dysentery, and 4 of cholera morbus. None of these cases could be traced to any imprudence in diet. It should be remembered that the water-supply of the enlisted men has all along been obtained from drive-wells; that supplied to the officers and their families is brought from a distance, and is nearly the same as that which is to be introduced into the post from Water Cress Cañon.* Among the officers and their families I have not had a single case, child or adult, of gastro-intestinal trouble during the summer.

At Fort Leavenworth, Kans., in January, Surgeon A. A. Woodhull remarked:

Much of the sickness, both among the troops and the families, has been of a type not described in the books, but such as I have seen in a milder degree at other places during the prevalence of external temperatures much lower than the average of this locality. For want of a better name I have designated it as ephemeral or remittent fever, and have called attention to these cases by remark. They might with equal propriety be designated as congestive (not pernicious or malarial) fever. The condition is one of congestion of the liver and intestines, accompanied by more or less general disturbance, chilliness, and fever. In a few cases, but not usually, bronchial congestion was added. In a number of cases there was intense pain in all the joints and limbs. The use of a sharp mercurial cathartic, followed in most cases by quinine, gave relief. In a few instances relief followed a spontaneous bilious diarrhœa. At one time the affection seemed almost epidemic, but no particular case was prolonged in duration. My theory of it is that unusual and prolonged cold weather, coupled with want of accustomed exercise, led to hepatic congestion and to the imperfect digestion and elimination of food material. It is not supposed that there was any true malarial disease in the common sense in the cases to which these remarks apply.

In February he added:

The prevalent congestive and ephemeral fever reported in January has been followed by a very large amount of diarrhœal diseases. This disease has been of the same general nature as that then reported except that there has been much less pain and febrile disturbance and much more spontaneous diarrhœa. The dejections have been very watery and copious, and have persisted until free hepatic discharges have been produced. There has been frequent vomiting of bilious matter under the action of cathartics. There has been very little or no elevation of temperature with these attacks. From the intractable nature of the complaint and its very profuse and watery flow, it has acquired the name of "winter cholera" in Leavenworth, Kansas City, and other towns where it has prevailed extensively, and, according to the public prints, with some fatal effects. The treatment found most useful at this post has been: Pil. hydrarg., hydrarg. chlor. mit., āā gr. ii, ext. hyoscyam., gr. i, in pil. I. Two or three of these at a dose, and sometimes repeated once, has generally been sufficient. Occasionally a repetition has been required, and after purgation the use of moderate astringents, but the latter very rarely. The general experience of the medical officers here has been unfavorable to any attempt to directly control the diarrhœa before obtaining free bilious discharges, but in a few cases bismuth and salicylic acid, without the use of mercurials, have controlled it. The latter part of the time the water supply (Missouri River) has been very muddy, but I do not think that had any causative influence upon the disease, which, as before remarked, I look upon as a modified continuation of the January outbreak.

SPECIFIC FEBRILE DISEASES gave the high admission rate of 17.91 per thousand of strength, due to the prevalence of measles and mumps at certain of the posts—measles constituting 8.70 and mumps 4.89 of these admissions. The deadly disease, typhoid fever, occasioned only 3.28 admissions, as against 7.30 in 1887 and 4.28 during the preceding

* See page 83.

decade. In 1887 this fever caused 4.99 admissions in the army of Austria-Hungary, and in 1886 5.41 among the Italians and 11.89 among the British. The other diseases of this class were sporadic and of little value as factors of sickness. The following tabular statement represents the admissions per thousand of strength in the armies stated:

Diseases.	United States.			Austria-Hungary, 1887.	Great Britain, 1886.	Italy, 1886.
	1888.	1887.	Decade, 1877 to 1886.			
Typhoid fever	3.28	7.30	4.28	4.99	11.89	5.41
Typhus fever	.....	.....	.03	.10	.....	.08
Yellow fever	.....	.....	.27	.....	.01	.....
Small-pox	.08	.08	.23	.79	.44	.86
Varioloid	.12	.....	.18	.....	1.34	
Chicken-pox	.16	.13	.14	.....	.....	.21
Measles	8.70	3.86	2.43	2.00	1.65	4.44
Scarlet fever	.36	.08	.15	.22	.29	.23
Mumps	4.89	2.85	2.81	1.70	.67	5.42
Diphtheria	.12	.17	.52	.18	.05	.01
Whooping-cough	.16	.04	.07	.....	.....	.....
Cerebro-spinal fever	.04	.04	.08	.....	.07	.10
Cholera	.....	.....	.....	.....	.25	.49
Total	17.91	14.55	11.19	9.98	16.66	17.25

TYPHOID FEVER.—For several years past the recruiting depot at Jefferson Barracks, Mo., has been a center of typhoid infection. Thirty-five cases, with 10 deaths, were reported in 1884; 6 cases, with no death, in 1885, and 8 cases, with 3 deaths, in each of the following years. During the past year only one case was reported, a result attributed to the important changes effected in the sanitary condition of the station, and particularly to its improved water-supply. But although the disease appears to have been brought under control in what has heretofore been regarded as one of its hotbeds, its appearance at two military posts during the past year has been regarded as due to importation from this depot. Thus, a patient who died at Fort Thomas, Ariz., April 5, arrived from Jefferson Barracks February 24, sick with typhoid fever, after a journey of sixteen days. Concerning this case, Assistant Surgeon Morris remarked that the patient passed through a fatal attack of typhoid fever with symptoms which might readily have been attributed to a mild quotidian intermittent. The mildness of the symptoms, in contrast with the great destruction of the intestinal lining, was a remarkable feature of the case. Again, at Fort Leavenworth, Kans., one of four cases that occurred in November was in the person of a cavalry recruit so recently received from Jefferson Barracks that the infection was regarded as having been imported with him from that depot.

From Fort Laramie, Wyo., which furnished a considerable number of cases in 1887, 3 cases were reported in April of this year and 1 in May. The first patient struck down by the disease was at the time an inmate of the hospital, the second was a member of the hospital corps, and the third a carpenter who had been repairing the hospital building; the second and third cases proved fatal. As the hospital seemed to be connected with the propagation of the disease, its walls, floors, furniture, etc., were thoroughly disinfected; its privy-vaults were carefully treated, and the vault-building destroyed by fire. In August 6 cases of a mild type were reported, and in October a male civilian became affected.

Concerning a case which was treated at Fort Mackinac, Mich., Assistant Surgeon C. E. Woodruff remarked in a special report:

As abortive cases of typhoid fever are often apocryphal, or at least rare, I have no doubt that this patient was suffering from the fever for ten days, during which he was doing duty. The case was evidently mild, with little noticeable fever. When he had any appetite he ate the regular ration. This diet, irritating and inflaming the intestinal ulcers, caused a rise of fever to 106° Fahr. After the intestinal contents had been removed by purgation the case progressed more nearly as a mild case should. Recovery in typhoid fever when the temperature has been over 106° is quite rare, and the case is in so far interesting.

At Denver, Colo., 2 cases were treated in the hospital in August, and, as the disease was at the time prevailing in the neighboring city, it was presumed that these cases took their origin outside the limits of the post.

Several cases occurred at Fort Clark, Tex., David's Island and Madison Barracks, N. Y., Fort Snelling, Minn., San Antonio and Fort Hancock, Tex., Fort Douglas, Utah, and one each at several other posts, making a total of 81 cases, 13 of which were fatal.

Among civilians living at military posts 3 cases occurred at San Antonio, Tex., and 1 at each of the following stations: Fort Meyer, Va.; Washington Barracks, D. C.; Watertown Arsenal, Mass.; Fort Laramie and camp on Prelle Creek, Wyo.; Forts Robinson and Niobrara, Nebr.; Forts Macintosh and Hancock, Tex., and Fort Bidwell and the Presidio of San Francisco, Cal.

MEASLES prevailed at a large number of military posts, mostly during the spring months. The disease disappeared from all during the summer, and re-appeared with the advent of cold weather at but one post—Columbus, Ohio—at which there was a re-introduction of the infection. A recruit from the rendezvous at St. Louis, Mo., brought the disease to this recruiting depot. His condition was detected a few days after his arrival and he was isolated in hospital, but within two weeks five men of his company reported at sick-call with the disease, which soon spread to the men of other companies. Fifteen cases among enlisted men and one child were reported as affected in January; 9 cases were developed in February, 1 in March, 2 in April, and 1 in June. Isolation and disinfection were practiced for the repression of the epidemic. In December the disease re-appeared in the person of a recruit from Chicago, Ill. This man arrived on the 1st and was recognized as affected on the 5th. Notwithstanding every precaution, 27 cases were reported during that month, and the disease may be said to have assumed the proportions of a local epidemic.

The cavalry recruiting depot at Jefferson Barracks, Mo., also owed its infection to the city of St. Louis. A colored recruit became sick within twenty-four hours after his arrival at the depot early in January. Within the next twenty-four days three persons became affected. In February and March 38 cases were developed. Of these cases Surgeon Eli McClellan reported that—

Twenty-four were in the persons of white, 14 in colored, recruits. No case occurred among the men of the depot detachment or of the band. Twelve cases were complicated with pneumonia; the right lung was involved in 4 cases, the left in 1 case; in 7 cases both lungs were affected. Of the last group the disease was confined to the lower lobes in 3 cases; in the remaining 4 cases the entire lung-tissue was involved, and 3 all terminated fatally. One death occurred from intense exhaustion, making a mortality of 5 in 38 cases. Of the deaths, 4 were white and 1 colored. The only complications, apart from pneumonia, which were observed, were 2 cases of severe laryngitis with sloughing, and 1 or 2 cases of inflammation of the external ear. It is too early to report upon the sequelæ of this slight epidemic. I am, however, of opinion that among the 13 colored recruits who recovered and are so far convalescing formidable lung trouble will ultimately result. As to

the method of treatment adopted, I have but little to report. Each case was carefully nursed and nourished; stimulants, with milk and beef-broth, were administered freely; and when pulmonary symptoms appeared the patient was at once placed in an oiled-silk jacket. Of this last procedure I can not report too highly; a jacket of flannel, lined with cotton-batting and covered with oiled silk, was made to cover every portion of the chest. Every effort was made to prevent a diffusion of this disease to other posts; and I regret exceedingly to learn that some cases occurred among two detachments of recruits which were sent from this depot before the epidemic was fully established. As soon as it was known that the disease was epidemic at this depot all recruits who were drafted to regiments were isolated, and before they left the depot their effects were carefully fumigated. The disease, however, has been so generally diffused this spring through the country that it has been almost a futile task to attempt to prevent its spread. It is my opinion that a fumigation I was able to make with the "Seabury sulphur candles" had much to do with the stamping out of the epidemic. No case has occurred among the recruits since that time. Ten cases of the disease occurred in the depot among the children and servants; all are convalescing satisfactorily.

From Jefferson Barracks the disease was distributed to a number of posts, according to the reports of the local officers. A recruit from this depot, on his arrival in February at Fort Concho, Tex., was found to be suffering from measles. At Fort Bayard, N. Mex., a case occurred January 27, in a colored soldier who had arrived at the post on the 23d from Jefferson Barracks; in February 3 additional cases were developed. These were promptly isolated, and measures were taken to prevent the spread of the infection. Subsequently the disease was reintroduced at this post from Pittsburgh, Pa., by the six-year-old daughter of an officer, the eruption appearing on the day after her arrival. In this case Assistant Surgeon W. D. Dietz reports that—

An intense capillary bronchitis had developed as a complication. At one time the rate of inspiration ranged from 66 to 72, the pulse was rapid and feeble, the symptoms of approaching asphyxia were well marked, and general convulsions imminent. The prompt administration of an emetic of ipecac, preceded and followed by hypodermic injections of brandy, with a hot bath, was resorted to. After emesis the rate of inspiration sank to 42, the pulse increased in strength and decreased markedly in frequency, the symptoms of asphyxia disappeared, and convulsions were averted. A repetition of this treatment became necessary about six hours later, and was followed by improvement. In a few days the child had recovered from her acute symptoms, but, as a sequel, there was some dulness of the apex of the right lung. For two weeks the temperature showed nightly exacerbations, and the little patient lost flesh rapidly and suffered from extreme lassitude and anorexia. Antifebrin was administered with benefit, and convalescence set in. During March 3 light cases of measles occurred among children; in April 4 among soldiers, 11 among children, and 1 among the male civilians. All were uncomplicated and recovered.

At Fort Stanton, N. Mex., the disease was introduced in February by a recruit from Jefferson Barracks. About the same time an officer's family was exposed while traveling in a sleeping-car, and the affection was developed in a child shortly after the arrival of the family at the post. By timely measures the disease was restricted to these 2 cases. Fort Grant, Ariz., also was infected from Jefferson Barracks by means of two detachments which arrived at the post in February. Six men had to be taken into hospital on their arrival, and in 2 of these cases the eruption appeared two days before reaching their destination and eight days after leaving Jefferson Barracks. One case only was developed in the garrison at Fort Grant. At Forts Sill and Gibson, Ind. T., and Fort Union, N. Mex., the disease was introduced by recruits, but the reports do not state the depot or station from which they were received. In none of these instances did the disease spread from the imported cases.

The recruiting depot at David's Island had a record of 6 cases; and 2 of 4 cases that occurred at Fort D. A. Russell, Wyo., are said to have been received with recruits from that depot. At West Point, N. Y., 2

cases occurred among the troops; at Boisé Barracks, Idaho, 5 cases among the troops and a number among the children and other unprotected persons, and at Fort Clark, Tex., 9 cases among the troops and as many among other persons in the garrison, mostly children. In these instances the disease was derived from the neighboring settlements of Newburgh, Boisé City, and Brackettsville. In the other instances of the development of the disease the origin of the infection is not stated. At Fort Monroe, Va., 7 cases occurred among the troops, and as many among the children of the post. At each of the posts of Madison Barracks, N. Y., and Laramie, Wyo., 1 man was reported as having been affected; at Denver, Colo., 3; at Angel Island, Cal., 19; at Huachuca, Ariz., 4, with 16 cases among the children, and at Fort Niobrara, Nebr., an unstated number of cases.

Cases occurred among civilians at Allegheny Arsenal, Pa.; Angel Island, Cal.; Alcatraz Island, Cal.; Fort Bayard, N. Mex.; Boisé Barracks, Idaho; Fort Bridger, Wyo.; Fort Clark, Tex.; Fort Columbus, N. Y.; Columbus Barracks, Ohio; Fort D. A. Russell, Wyo.; Fort Davis, Tex.; Fort Huachuca, Ariz.; Jefferson Barracks, Mo.; Jackson Barracks, La.; Fort Leavenworth, Kans.; Fort Lyon, Colo.; Madison Barracks, N. Y.; Fort Marcy, N. Mex.; Fort Monroe, Va.; Fort Pembina, Dak.; Fort Ringgold, Tex.; Fort Robinson, Nebr.; Fort Shaw, Mont.; Fort Sherman, Idaho; Fort Sidney, Nebr.; Fort Spokane, Wash.; Fort Stanton, N. Mex.; Fort Supply, Ind. T.; Fort Union, N. Mex.; Vancouver Barracks, Wash.; Fort Walla Walla, Wash.; West Point, N. Y.; Fort Wingate, N. Mex.; Fort Yates, Dak.; Washington Barracks, D. C.; Presidio of San Francisco, Cal.; Fort Mason, Cal.; Fort Sheridan, Ill.; Fort Sisseton, Dak.; Fort Ontario, N. Y.; Fort Hays, Kans.; Fort Lowell, Ariz.; Fort Schuyler, N. Y.; Willets Point, N. Y.; Fort Totten, Dak. Four of these cases ended fatally.

A few cases of RÖTHELN occurred, mostly among children, at Vancouver Barracks, Wash., Forts Apache, Ariz., and Niobrara, Nebr., the Presidio of San Francisco and Benicia Barracks, Cal. Assistant Surgeon C. K. Winne reported from Fort Wadsworth, N. Y., that—

> Five cases of rötheln, or German measles, were treated. In 4 the eruption was profuse; in 1 not so well marked, though sufficiently developed to render the diagnosis positive. In 3 cases pseudo-rheumatic pains were complained of in the wrists. Sore throat was present in all; in 1 to quite a severe extent, involving the tonsils and velum palati, and attended with some bronchial catarrh. In all there was a marked enlargement of the suboccipital and post-cranial glands. The highest temperature observed was 99°.

Cases of MUMPS occurred among enlisted men at Fort Clark, Tex.; Columbus Barracks, Ohio; David's Island, N. Y.; Fort McHenry, Md.; Fort Leavenworth, Kans.; and Willets Point, N. Y.; among civilians at Fort Clark, Tex.; Columbus Barracks, Ohio; Fort Leavenworth, Kans.; Fort McHenry, Md.; Fort Lowell, Ariz.; Hot Springs, Ark.; Fort Keogh, Mont.; Fort Bridger, Wyo.; and Fort Douglas, Utah.

Five cases of SMALL-POX were reported. An enlisted man was affected at Willets Point, N. Y., another at Fort Brown, Tex., an officer in San Francisco, a colored servant at Fort Leavenworth, Kans., and a colored employé at Fort Verde, Ariz. Proper precautions were taken in each of these cases, and the disease was stamped out without further spread.

Cases of CHICKEN-POX were reported among civilians at Fort Porter and West Point, N. Y.; Forts Keogh and Custer, Mont.; Fort Mason, Cal.; Fort Lewis, Colo.; Washington Barracks, D. C.; and Fort Leavenworth, Kans.

An epidemic of INFLUENZA was reported from Fort Huachuca, Ariz., in August. Although of a mild character, it caused great distress to many, with high temperature and symptoms of acute bronchial catarrh. Miners working at an elevation of 3,000 feet above the post also suffered. An epidemic of coryza prevailed for two or three weeks at Fort Stanton, N. Mex., in October; at Fort Union, N. Mex., from January to April, and at Fort Lewis, Colo., in November and December. At Fort Sidney, Nebr., in December, Assistant Surgeon C. S. Black reported a severe epidemic of nasal and pharyngeal catarrh in the garrison and town of Sidney.

In only one case was there any extension of the disease to the larynx. Some of the cases have been complicated with enlargement of the submaxillary and sublingual glands, and in most cases the tonsils were involved. The pharyngeal mucous membrane and submucous tissue has in many cases been exfoliated in patches. The disease invariably manifested itself first as a post-nasal catarrh, extending thence to the rest of the pharynx. It has been characterized by a muco-purulent secretion remarkable for its tenacity. I ascribe the disease to organic impurities which have been dried, powdered, and carried through the atmosphere by the prevailing high winds here. These impurities are the dried offal of live-stock and the particles from decaying manure heaps, decaying straw, and such like filth from the town of Sidney and environs, to which I have repeatedly drawn the attention of the authorities.

WHOOPING-COUGH was reported as having prevailed among the children and civilians at the following posts: Fort Columbus and Willets Point, N. Y.; Fort Monroe, Va.; Fort Davis and Camp Del Rio, Tex.; Fort Wayne, Mich.; Alcatraz Island and Presidio of San Francisco, Cal.; Fort Riley, Kans.; Forts Totten and A. Lincoln, Dak.; Fort Missoula, Mont., and Fort Grant, Ariz. Fort Sill, Ind. T., also appears to have suffered from a visitation of this disease. Acting Assistant Surgeon W. Barbour reported in March that—

A peculiar form of cold and cough has for the past three weeks prevailed quite extensively among the children, particularly among the school children. The disease is probably a form of catarrhal fever, epidemic in character. In most cases the temperature has ranged from 100° to 103° Fahr., accompanied with distressing cough, rather paroxysmal in character, sometimes followed by vomiting. There is generally at first more or less coryza, with watery eyes, some pharyngitis and bronchitis, and pain in the back and limbs, loss of appetite, debility, and lassitude. After the fever subsides the cough continues in a modified form for several weeks.

The report for April by Assistant Surgeon D. Weisel states that—

The form of sickness mentioned as prevailing among children has in half a dozen cases developed into well-marked whooping-cough, and it is possible that all the cases may have been of the same nature in a modified form, though the majority did not manifest decidedly distinctive signs of this disease. It is thought likely that the disease was imported through a colored woman, who at once, upon arriving at the post, went as a servant into an officer's family, where the first case was developed. It is suggested that in future, as far as practicable, all persons coming to the post as servants, or who are liable to be thrown at once with children, have first their history inquired into by the medical officer.

Only two cases of SCARLET FEVER occurred among the troops, one the case of an officer at Fort Pembina, Dak., the other that of an enlisted man at Fort Wadsworth, N. Y. Its occurrence was more frequent among children and civilians. At Fort Lincoln, Dak., 2 cases; Fort Bidwell, Cal., 4; Presidio of San Francisco, 3; Jackson Barracks, La., 6; Fort Laramie, Wyo., 4; Fort Monroe, Va., 2; Madison Barracks, N. Y., 1; Fort Spokane, Wash., 1; Fort Maginnis, Mont., 2; Fort Walla Walla, Wash., 1; Fort Wingate, N. Mex., 2, fatal; Fort Wayne, Mich., 1; Washington Barracks, D. C., 2; and Indianapolis Arsenal, Ind., 1, fatal.

Referring to two fatal cases in the family of an officer at Fort Wingate, N. Mex., Surgeon P. J. A. Cleary reports as follows:

During the progress of the disease in his two boys, one of the captain's daughters, who had suffered from scarlet fever years before, was attacked with violent sore throat, and next day another daughter was similarly affected. A remarkable feature with this disease was the prevalence at the same time of sore throat, which seemed to be contagious. Of four officers who sat up by turns to nurse the sick children every one was attacked with sore throat. One lady sat up one night with one of the boys, and on the second day after she had severe sore throat: a few days after her husband became similarly affected. In my own family one daughter was attacked with sore throat during the prevalence of the disease; soon after her sister was also attacked; then her mother, and then myself. So it was with the enlisted men, among whom were several cases of this sore throat, some very severe. In almost every case of sore throat the attack was preceded from twelve to twenty-four hours by a chill followed with fever. There appeared to be a direct connection between the presence of scarlet fever and the prevalence of this epidemic of sore throat.

Most of the cases of DIPHTHERIA reported during the year occurred in the persons of children belonging to the garrisons. Only two enlisted men suffered; one a new arrival at Fort Wood, N. Y., the other a recruit from Baltimore received into hospital at Fort McHenry, Md. Six cases, one fatal, occurred among civilians at Fort Grant, Ariz. Concerning these Assistant Surgeon A. W. Taylor reports as follows:

The disease made its appearance on December 7 in the person of a girl eight years old. Six cases occurred, one fatal; a case of membranous croup also died. In both of these fatal cases the parents refused tracheotomy. The strictest quarantine was maintained throughout the continuance of the epidemic; constant disinfection of the house was practiced, and no communication was allowed with the remainder of the post. Upon the termination of a case all the clothes of the patient that could be properly disinfected were soaked in a solution of corrosive sublimate for twenty-four hours, after which they were boiled for three hours and then bleached in the sun for ten hours. Clothes that could not be subjected to this treatment were destroyed by fire. On the favorable termination of a case the patient was given an antiseptic bath before being discharged from quarantine. During the continuance of the epidemic all the children of the command were subjected to a daily examination, and the condition of their throats was made the subject of special investigation; any child showing signs of faucial trouble was immediately isolated and watched for some days. By these means we were enabled to stamp out the epidemic in a place which offered unusually favorable conditions for its spread. * * * The favorable results are in my opinion due in part to the bichloride of mercury treatment.

At Fort Brady, Mich., 5 cases, 1 fatal, were reported in June; 4 of the cases occurred in one family, and 1 in another, in adjoining quarters. The disease was said to have been introduced from school outside the post. Another case was reported in October. Four cases, 1 fatal, occurred in one family at Rock Island Arsenal, the disease having its origin in the adjacent city. A single case, terminating in recovery, was reported from each of the posts of Newport Barracks, Ky.; Sisseton, Dak.; San Antonio, Tex., and Fort Niobrara, Nebr. A single case, terminating fatally, was reported from Fort Huachuca, Ariz.; Jackson Barracks, La.; West Point, N. Y., and Vancouver Barracks, Wash.; death occurred from heart failure in the last-mentioned case, which was mild in its specific characteristics. A case of diphtheritic paralysis occurred in the person of a civilian at Fort Du Chesne, Utah.

During the year the abuse of INTOXICATING LIQUORS gave origin to an admission rate of 40.12, as compared with 46.32 in 1887 and 59.97 during the preceding decade. There is here manifested a gratifying temperance movement, which it is hoped the canteen system may render more actively progressive. The difference between the rates of the white and the colored troops in this case is most noteworthy: Admission, whites, 43.97; colored, 4.55; non-effectiveness, whites, .44; col-

ored, .03. This should be printed in italic to the credit of the colored soldiers.

The admission rate for INJURIES from the Army as a whole was 242.88, and the non-effective rate 8.36. Boisé Barracks, Idaho, gave the largest number of admissions, 653.00 per thousand of strength, with 14.66 non-effectives; Fort Brown, Tex., came second in order, with 597.22 admissions and 14.71 non-effectives. The largest non-effective rate was furnished by Camp Sheridan, Wyo., 17.03, followed closely by Fort Riley, Kans., 16.67. Kennebec Arsenal, Me., with its small number of men, gave the large admission rate of 555.56, although only 2.28 were non-effective. Other posts giving high rates were Fort Hancock, Tex., 469.39 and 14.37 non-effective; Willets Point, N. Y., 369.75 and 12.76; Fort Warren, Mass., 371.79 and 13.84, and Fort Preble, Me., 317.07 with 10.20.

Heat-stroke gave rise to 66 admissions, only two of which were among the colored troops; one death occurred from this cause among the white troops. Of the 140 cases of *frostbite and general freezing* that were reported, nearly one-half, 66, occurred among the colored men, the white admission rate for this cause being only 3.32 per thousand, while the colored rate was 27.32; 1 death, white, and 5 discharges for resulting disability. Under the heads of *abrasions*, *blisters*, *burns*, and *scalds*, 403 cases of minor injury were recorded, as no death nor discharge resulted from them, and the non-effective rate was but .32. *Contusions* and *sprains* furnished 3,227 cases, giving an admission rate of 130.51 and 3.47 of constant disability; no deaths; 12 discharges. The *dislocations* numbered 71, the *fractures* 152, the non-effective rate of the former being only .22; of the latter, .95. Dislocations caused 5 discharges; fractures, 1 death and 15 discharges. The *incised*, *lacerated*, *contused*, and *punctured wounds* numbered 1,249, causing 3 deaths, 5 discharges, and a constant sick-rate of 1.62 per thousand men. Ninety-six cases of *gunshot wounds* were entered on the reports, resulting in 5 deaths and 23 discharges; but, in addition, there were 14 cases in which death was instantaneous or followed so soon after the receipt of the injury that the men were not taken on sick-report. The number of these casualties was therefore 110, of which 3, with no death, occurred during the firing of salutes; 20, with no death, during the reloading of cartridges; 16, with 2 deaths, at target practice; 14, with 2 deaths, while hunting; 20, with 6 deaths, in personal encounters; 8, with 6 deaths, as the result of suicidal attempts; 27, with 3 deaths, by accident pure and simple, and 2, not fatal, self-inflicted by malingerers. Fifteen deaths from *drowning* were reported; they were all accidental and occurred, 6 while hunting or fishing, 3 while bathing, 2 while boating, and 4 by other accidents.

Twelve cases of *suicide* were reported during the year, all enlisted men—3 infantry, 3 cavalry, 2 artillery, 1 engineers, 1 hospital corps, and 2 general service. Poisoning was selected in 5 cases, throat-cutting in 1, and gunshot in 6. Insanity was the cause assigned in 2, alcoholism in 2, weakmindedness in 1, love troubles in 3, and having been charged with theft in 1; in 3 cases the cause could not be determined. The nativities were: United States 5, German 4, Irish 2, English 1. The ages twenty-four, twenty-eight, and forty-one, 2 cases each; twenty-five, twenty-six, thirty-one, thirty-two, thirty-three, and thirty-nine, 1 case each. Three occurred in December, 2 in August, 2 in September, and 1 each in March, May, June, July, and November. Two occurred at Fort Leavenworth, Kans.; 2 at Fort Sherman, Idaho, and 1 each at Fort Stanton, N. Mex.; Fort Hamilton and Willets Point, N. Y.; San Diego,

Cal.; Omaha, Nebr.; Fort Keogh, Mont.; Fort Ringgold, Tex., and Columbus Barracks, Ohio.

Seven cases of attempted suicide were reported, all enlisted men—4 infantry, 3 artillery. Alcoholism was responsible for 4 cases, mental derangement for 2, and the charge of desertion against the individual for 1. Poison was used by 3, cutting the arteries of the throat and wrist by 1 each, gunshot by 2. The nativities were: United States, 6, Irish, 1; the ages, twenty-one 2, twenty-five 1, thirty-six 3, and thirty-four 1. Two occurred at Washington Barracks, D. C., and one each at David's Island, N. Y.; Fort Keogh, Mont.; the Presidio of San Francisco, Cal.; Fort Niobrara, Nebr., and San Antonio, Tex. Two were reported in July and 1 each in March, September, October, November, and December. The total of suicides and attempts at suicide numbered 19. Five occurred in the first year of the service, 1 in the second, 3 in the third, 5 in the fourth, and 1 each in the seventh, ninth, and twelfth, and 2 in the sixteenth year of service. The comparative prevalence of suicide in certain armies may be seen by the following tabular statement:

Army.	Ratio per 1,000 of mean strength.	Remarks.
United States, 1888	.45	Inclusive of officers.
United States, 1887	.79	Do.
United States, 1877–1886	.72	Do.
Austria-Hungary, 1887	1.37	Do.
Great Britain, 1886	.35	Exclusive of officers.
Italy, 1886	.24	Inclusive of officers.

SURGICAL OPERATIONS.—During the year the medical officers of the Army reported 281 surgical operations, 134 of which were necessitated by injuries and 147 by disease. The number, character, and results of these are shown in the following statement:

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Removal of tumors		**38**			
Enucleation	Encysted tumors, 3; sebaceous, 13; fibrous, 5; lipoma, 3; myoma, 1; neuroma, 1; dermoid, 1; papilloma, 1; condyloma, 3; lymphoma, 1; chalazion, 1; syphilis, 2.	35	35		Scalp, 1; face, 11; neck 8; back, 6; side, 1; chest, 1; abdomen, 3; penis, 2; finger, 2.
Incision	Sarcocele, 1; malignant, 1.	2	1	1	Scrotum, 1; iliac fossa, 1.
Paracentesis	Sarcocele	1	1		Scrotum.
Removal of foreign bodies		**8**			
Bullets and shot	Shot wounds	3	3		Face, 1; abdomen, 1; thigh, 1.
Miscellaneous substances	Punctured wounds	5	5		Eye, 3; hand, 2.
Opening of abscesses		**10**			
Incision		8	8		Nose, 1; neck, 1; abdomen, 1; anus, 3; thigh, 2.
Aspiration	Hepatic abscess	2		2	
Operations on the eye		**9**			
For pterygium		1	1		Ligature.
Iridectomy	Iritis	3	3		
Excision of eyeball	Shot wound, 1; laceration, 1; staphyloma 1; ophthalmia, 2.	5	5		

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Operations on the ear		**2**			
Perforation of mastoid cells	Inflammation of middle ear.	1	1		Drill.
Removal of foreign substances	Dermatitis	1	1		Forceps.
Operations on the nose		**3**			
Extraction of polypus	Nasal catarrh	2	2		Through natural passage.
For deflection of the septum	Result of injury	1	1		
Operations on the mouth		**3**			
Removal of tonsils	Tonsilitis, enlargement.	2	2		
Excision of uvula	Nasal catarrh	1	1		
Operations on arteries		**3**			
Ligation					
External iliac *a*	Strain; femoral aneurism	1	1		Esmarch's method.
External carotid	Ulceration of fauces; hemorrhage.	1	1		Silk ligature.
Temporal	Contusion; aneurismal varix.	1	1		Aneurism pins.
Operations on veins		**5**			
For varicocele	Contusion, 1; varices, 4.	5	5		Ligature.
Operation on respiratory organs.		**1**			
Paracentesis of pleura	Pleurisy	1	1		
Operations on digestive organs.		**25**			
For hernia:					
Taxis	Scrotal, 1; inguinal, 1	2	1	1	Strangulated, 2.
Radical cure	Inguinal, 2	2	2		Incomplete, 1; oblique, 1.
For fistula in ano		6	6		Incision.
Hemorrhoids		14	14		Ligation, 5; excision, 7; evacuation, 1; clamp, 1.
Paracentesis abdominis	Hydro-peritoneum	1	1		
Operations on lymphatic organs.		**2**			
Removal of glands	Adenitis 1; syphilis, 1	2	2		
Operations on urinary organs.		**17**			
Nephrectomy	Floating kidney	1	1		
For stricture of urethra:					
Gradual dilatation	Gonorrhœa, 3; syphilis, 1.	14	4		
Internal urethrotomy	Gonorrhœa, 7; syphilis, 4.	11	11		
External urethrotomy	Laceration of perineum.	1	1		
Operations on generative organs.		**20**			
For phymosis	Congenital, 5; gonorrhœal, 4; syphilitic, 8.	17	17		Circumcision, 16; dilatation, 1.
For hydrocele		2	2		Tapping, 1; radical cure, 1.
For hæmatocele	Contusion	1	1		Scrotum opened.
Operations on bones		**12**			
Periosteotomy	Inflamation of ear	1	1		Temporal.
Removal of portions of	Fracture, 1; shot wound, 3.	4	3	*b*1	Maxilla, 1; tibia, 2; skull, 1.
Removal of sequestrum	Laceration; necrosis.	1	1		Frontal.
Trephining	Compound fractures.	2	2		Frontal, 1; parietal, 1.
Excisions:					
Head of humerus	Shot fracture	1	1		Secondary.
Head of metacarpal	Dislocation	1	1		Secondary.
Head of femur	Hip-joint disease	1	1		Secondary.
Os calcis	Sprain; caries	1	1		Secondary.
Operations on joints		**46**			
Reduction of dislocations		41	41		Maxillary, 1; shoulder, 23; elbow, 7; wrist, 4; hip, 1; ankle, 5.
Forcible extension or flexion	Rheumatism, 1; sprain, 1; luxation, 1.	3	3		Wrist, 1; ankle, 2.
Removal of loose bodies	Contusion	1	1		Knee.
Aspiration	Disease	1	1		Knee.

a To light duty. Died about six months after operation, of acute gastritis.
b Died of phthisis pulmonalis.

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Operations on limbs		**56**			
Amputations for injury:					
Arm	Shot wounds	2	2		Primary, 2.
Elbow-joint	Shot wound, 1; necrosis, 1.	2	2		Secondary, 2.
Fore-arm	Shot wound	1	1		Primary, 1.
Part of hand	Shot wound, 3; fracture, 1.	4	4		Primary, 4.
Fingers	Injury, 11; frostbite, 1; shot wounds, 14.	26	26		Primary, 17; intermediary, 2; secondary, 7.
Thigh	Shot wound, 1; fracture, 1.	2	1	1	Primary, 2.
Leg	Frostbite, 4; injury, 5.	9	a6		Primary, 3; secondary, 6.
Toes	Shot wound, 1; fracture, 3; injury, 4.	8	8		Primary, 4; intermediary, 1; secondary, 3.
Amputation for disease:					
Forearm	Malignant disease	1	1		
Amputations for deformity:					
Fingers	Contraction	1	1		
Operations on muscles and fasciæ.		**4**			
Division of fasciæ	Shot wounds, 2; disease, 2.	4	4		Thigh, 2; face, 2.
Operations on skin, etc		**17**			
Ingrowing toe-nails		10	10		
Skin-grafting	Laceration	1	1		Hand.
Cicatrices	Result of injuries	2	2		Face, 1; finger, 1.
Closure of wounds	Lacerations, 3; incised toe-nails, 1.	4	3	b1	Head, 1; chest, 1; penis, 1; foot, 1.
Aggregate		**281**			

a Three cases of double amputation.
b Wound penetrated the chest. Died of internal hemorrhage.

List of special medical and surgical reports received during the calendar year 1888.

MEDICAL REPORTS.

Name.	Rank.	Report.
Black, C. S	Assistant surgeon	Malingering; alleged urinary trouble.
Borden, W. C	do	Suppurative inflammation of the liver; autopsy thermograph.
		Suppurative inflammation of the liver; autopsy.
Cabell, J. M	do	Acute lobar pneumonitis; recovery; thermograph.
		Chronic endocarditis.
Cleary, P. J. A	Surgeon	Measles and scarlet fever at Fort Wingate, N. Mex.
Corbusier, W. H	Assistant surgeon	Vaccinations at Fort Grant, Ariz.
		Vaccinations at Fort Hayes, Kans.
Cowdrey, S. G	do	Acute diarrhœa; fatal.
Dewey, F. S	Acting assistant surgeon	Acute dysentery; fatal.
DeWitt, C	Surgeon	Acute pharyngitis and tonsillitis.
Eskildson, R. E	Hospital steward	Thermographs in four cases of intermittent fever.
Gardner, E. F	Assistant surgeon	Typhoid fever and double pneumonia.
Gibson, J. R	Surgeon	Gastro-enteritis; death from obstruction of the intestines.
Girard, J. B	do	Acute peritonitis; fatal.
Gorgas, W. C	Assistant surgeon	Acute dysentery; recovery; thermograph.
		Eczema.
		Acute lobar pneumonia; recovery; thermograph; four cases.
		Partial paralysis.
		Epilepsy.
		Valvular disease of the heart; autopsy.
		Remittent fever; phlebitis left leg.
Gray, W. W	do	Croupous pneumonia; fatal.
Harvey, P. F	do	Thermograph; typhoid fever.
Havard, V	do	Thermograph; malarial fever.
Hoff, J. V. R	do	Measles at Fort Reno, Ind. T.
		Cardiac degeneration; rupture of heart.

List of special medical and surgical reports, etc.—Continued.

MEDICAL REPORTS—Continued.

Name.	Rank.	Report.
Ives, F. J	Assistant surgeon	Approves leggins; criticises blanket bags and shelter tents.
LaGarde, L. A	do	Angina pectoris; fatal.
Lippincott, H	Surgeon	Partial paralysis.
Mason, C. F	Acting assistant surgeon	Acute cerebral meningitis; autopsy.
Maus, L. M	Assistant surgeon	Chronic dysentery; irrigation of rectum and colon with solution of nitrate of silver.
McClellan, E	Surgeon	Measles at Jefferson Barracks, Mo., in January, February, and March.
		Pneumonia at Jefferson Barracks, Mo., in January and February.
McElderry, H	do	Remittent fever; thermograph.
		Typhoid fever; thermograph.
Meacham, F	do	Febricula at Fort Douglas; thermographs.
Middleton, J. V. D	do	Stricture of rectum; autopsy.
		Erysipelas; death.
		Acute general peritonitis; perforation of jejunum.
		Typhoid fever; two fatal cases.
Morris, E. R	Assistant surgeon	Typhoid fever; death; thermograph.
Munn, C. E	do	Remittent fever; recovery; thermograph.
		Malarial fever in camp at Santa Barbara, Cal.
		Remittent fever; thermograph.
Owen, W. O., jr	do	Gonorrhœal ophthalmia.
		Intestinal colic.
Pope, B. F	Surgeon	Ulcerative perforation of the bladder; acute cystitis; death.
		Malignant tumor of abdomen; autopsy.
Powell, J. L	Assistant surgeon	Gall-stones; fatal.
Shannon, W. C	do	Remittent fever; recovery; thermograph.
Strong, N	do	Pneumo-thorax; recovery.
		Chronic phthisis.
Tilton, H. R	Surgeon	Varioloid.
		Idiopathic erysipelas; fatal.
		Acute typhoid tuberculosis; autopsy.
		Alcoholism; death.
		Remittent fever, typhoid type.
Walker, M. W	Acting assistant surgeon	Varioloid.
White, R. H	Surgeon	Remittent fever; thermographs.
		Typhoid fever; thermograph.
Woodruff, C. E	Assistant surgeon	Typhoid fever; thermograph; recovery.
		Acute lobar pneumonia; recovery; thermograph.

SURGICAL REPORTS.

Benham, R. B	Assistant surgeon	Shot fracture, cranium; fragments of bone removed; recovery.
Black, C. S	do	Shot fracture, knee joint; excision; recovery.
		Traumatic arthritis; amputation of finger.
		Compound fracture, ankle joint; amputation of leg
Bushnell, G. E	do	Shot wound; thoracic parietes.
Byrne, C. C	Surgeon	Constriction of larynx; laryngotomy; recovery.
Cabell, J. M	Assistant surgeon	Shot wound; amputation of fingers.
Cline, G. L	Acting assistant surgeon	Autopsy in case of death from injury.
Corbusier, W. H	Assistant surgeon	Compound fracture of cranium; trephining; recovery.
Corson, J. K	Surgeon	Poisoning by morphia.
		Shot fracture of cranium.
Dawson, T	Hospital steward	Dislocation, shoulder-joint.
Dewey, F. S	Acting assistant surgeon	Shot perforating wound of chest; fatal.
Everts, E	Assistant surgeon	Ligature of external iliac artery for aneurism.
Frick, A. P	Acting assistant surgeon	Double amputation of legs for railroad accident.
		Lightning stroke; recovery.
Gandy, C. M	Assistant surgeon	Shot fracture; elbow joint; amputation of arm.
Gardiner, J. B. W	do	Incised wound of throat.
Gibson, R. J	do	Phymosis; dilatation.
Gorgas, W. C	do	Injury to eye by knife-blade.
		Amputation of anchylosed finger.
		Enucleation of eye; injury by chip of iron.
		Incised wound of foot; polio-myelitis.
		Laceration of eye; enucleation.
		Contusion of kidney; recovery.
		Enucleation of eyeball for surgical disease.
		Excision of head of metacarpal bone.

List of special medical and surgical reports, etc.—Continued.

SURGICAL REPORTS—Continued.

Name.	Rank.	Report.
Gray, W. W	Assistant surgeon	Shot perforation of abdomen, intestines, and bladder; autopsy.
		Aneurism of anterior cerebral artery.
Hall, W. R	do	Incised wound of chest and abdomen; autopsy.
Happersett, J. C. G	Surgeon	Fatal sunstroke.
		Poisoning.
Havard, V	Assistant surgeon	Amputation, fingers.
Hoff, J. V. R	do	Ligation of external carotid artery for surgical disease; recovery.
		Shot fracture of spine; fatal.
		Injury of head and knee.
Hubbard, V. B	Surgeon	Poisoning by aconite.
Jarvis, N. S	Assistant surgeon	Surgical injury of spine.
		Compound fracture of patella.
		Compound fracture of base of cranium.
		Operation for traumatic hæmatocele.
LaGarde, L. A	do	Double amputation of legs for frost-bite.
Macauley, C. N. B	do	Punctured wound; laceration of intestines.
		Double amputation of legs for frost-bite.
Mason, C. F	Acting assistant surgeon	Removal of ingrowing toe-nails.
		Amputation of fingers.
McClellan, E	Surgeon	Hemorrhage, persistent, following extraction of tooth.
		Extirpation of eye; gonorrhœal ophthalmia.
		Operation for strangulated hernia.
Middleton, J. V. D	do	Cancerous growth in iliac fossa; operated on.
Morris, E. R	Assistant surgeon	Excision of os calcis; secondary amputation of leg.
Munn, C. E	do	Aspiration; hepatic abscess; autopsy.
Owen, W. O., jr	do	Simple fracture symphisis of inferior maxilla.
Penrose, G. H	Acting assistant surgeon	Shot fracture; amputation of finger.
Pope, B. F	Surgeon	Dislocation of thumb; tetanus; fatal.
		Ligation jugulars and superior thyroid artery.
Raymond, H. I	Assistant surgeon	Hydro-sarcocele, testicle; castration.
Robinson, S. Q	do	Alarming symptoms during anæsthesia with Mallinckrodt's ether.
Shillock, P	do	Circumcision.
		Amputation of finger.
Suter, W. N	do	Simple fracture, clavicle.
Taylor, B. D	do	Traumatic aneurism; amputation of shoulder-joint.
Tilton, H. R	Surgeon	Poisoning by cocaine.
		Shot perforation of chest; recovery.
		Malignant phlegmonous inflammation of upper lip; autopsy.
Wilson, G. F	Assistant surgeon	Amputation for frost-bites.
		Shot wound, intestines; ball passed at stool; recovery.
Woodhull, A. A	Surgeon	Operation on the urinary organs.
Woodruff, C. E	Assistant surgeon	Septic abscess of neck; incised.
Wolverton, W. D	Surgeon	Shot penetrating wound, chest and abdomen; fatal.

SUMMER CAMPS, MARCHES, ETC.

Camp at Santa Barbara, Cal.—In the latter part of June the companies of the First Infantry garrisoning the posts of Benicia Barracks, Angel Island, and the Presidio of San Francisco, Cal., 20 officers and 302 enlisted men, encamped at Santa Barbara, Cal. The camp was on an elevated plateau, 200 feet above tide-water, overlooking the city of Santa Barbara and in view of the ocean about 2 miles distant. The site was without trees and was well drained naturally. The tents were floored and furnished with mattresses. Water was conveyed to the camp in an iron pipe and received into covered barrels from the spring used by the residents of Santa Barbara. During the first thirty days there were few casualties other than those that are to be found in every aggregation of men. About July 25 there was only one sick in hospital and an average of eight or ten in quarters. In a few days the patient in

hospital became affected with true enteric fever, showing typical temperature curves, rose spots, diarrhœa, epistaxis, gurgling and tenderness in the right iliac fossa, and general adynamia. While this patient was exciting much professional interest, on August 7 a recruit was admitted who speedily exhibited all the symptoms of true remittent fever. These patients both happily convalesced and were transferred to Angel Island. Towards the end of August unmistakable malarial fever occurred in the command, and early in September a number of cases had to be transferred to Angel Island. Surgeon Janeway, on duty at Benicia Barracks, recognized the malarial taint in the men belonging to his post who had taken part in the summer encampment. Concerning these malarial developments in a camp which had been especially selected for its probable freedom from such dangers, Assistant Surgeon C. E. Munn, who was in charge, reported as follows:

On the 27th, 6 more cases occurred; and on the 28th, 10. I now, of course, saw that I was dealing with a pernicious influence which affected some as quotidian intermittent, and others as a continued but mild remittent. I informed the commanding officer of the nature of the disease, and conferred with the most prominent of the resident practitioners, who added to a ripe experience of the coast diseases a particular acquaintance with the conditions of the locality. We examined the sick together, and held frequent consultations at the camp. The opinion was given that the whole illness was temporary in its character, and the result of indiscretions in diet, overindulgence in stale fruits, beer, and whisky, or taking cold after a sharp walk from the city late in the evening. The most responsible physician in Santa Barbara and many prominent citizens assured me that pernicious malaria was wholly unknown in the city or its environs; and I was assured that by relieving temporary portal congestions and giving less than twenty-five grains of quinine at bed-time, all my cases would quickly convalesce, as they had indeed before. From the 28th of August until we broke camp I had more and more serious cases. The largest number sick from all causes was 36 cases on September 6. On the 12th, upon my verbal recommendation, 9 cases were transferred to Angel Island by steamer, and on the 15th, 6 men more were sent. On the 13th, a case with remittent symptoms, complicated with intense and continued pain in the right hypochondrium, had a fatal hemorrhage from the bowels. On the 15th, while the cases were being selected for the steamer, another soldier, who had been delirious for twelve hours, succumbed to a congestive chill; he had sixty grains of quinine during the previous twenty-four hours. These two were the only fatal cases. In regard to the cause of the fever, I believe it originated during the last of August, increasing in intensity in September, which we now know is the hottest month in southern California. The influence of the hot sun on the vegetation, moist with the nightly fogs from the ocean seems to me sufficient. Another cause is found in the extensive upturning of the earth in grading a long avenue leading to camp.

One hundred and sixty-six cases were admitted to sick report: Intermittent fever, 45; remittent fever, 34; typhoid fever, 1; thermic fever, 1; headache, 10; dysentery, 4; diarrhœa, 5; rheumatism, 8; venereal diseases, 14; eye diseases, 5; injuries, 14; others, 25. Of the 166 admitted, 3 died, 13 were discharged, 106 returned to duty, and 44 were transferred to post hospitals. The 152 cases of disease were taken on the sick report as follows: June, 2; July, 35; August, 56; September, 59.

Camp at Monte Sano, near Huntsville, Ala.—Batteries B and H, Second Artillery, 7 officers and 93 enlisted men, left Fort Barrancas, Fla., July 6, and encamped at this place next day; and on August 17, Batteries G and L, 4 officers and 55 enlisted men, arrived from St. Francis Barracks, Fla. For several weeks after their arrival the companies were affected with diarrhœal troubles, which were attributed by Surgeon P. Middleton to the use of hard water. In September malarial diseases were developed to some extent, and the sanitary condition of the camp was materially changed by long-continued rains. Subsequently the command enjoyed excellent health. The camp was broken up November 28.

Camp on the Target Range at Fort Riley, Kans.—The encampment of four troops of cavalry, C, D, G and M, Seventh Cavalry, 9 officers and 250 enlisted men, on the target range, April 28 to May 31, although

established especially for steady and efficient work, resulted in marked hygienic advantages to the command. The break in the monotony of barrack life, the interest evoked by a change of duties, together with the wholesome surroundings of the camp, improved the health of the men notwithstanding the absence of certain barrack comforts and the increased exposure to changes of weather. The target range was again occupied, August 1, by Troops A, B, I, and L, Seventh Cavalry, 7 officers and 196 enlisted men. A good deal of fever, dysentery, and diarrhœa occurred in this command; and Surgeon Bache made use of this experience in urging that in future such camps should not be established so late in the season, but should be restricted to the months of May and June. The ground for the camp was well chosen and its police and sanitation carefully considered. Some of the sickness was no doubt attributable to the unacclimated condition of the command, which had but recently arrived from Dakota and been re-enforced by twenty-seven recruits from Jefferson Barracks, Mo.; but the difference between the spring and autumn camps was so great as to leave a broad margin for the support of Surgeon Bache's suggestion.

The encampment at Topeka, Kans., designated *Camp McCook*, was occupied from October 1 to the 7th by detachments of troops from Forts Leavenworth and Riley, Kans., comprising 54 officers and 485 enlisted men. Of this camp Assistant Surgeon N. S. Jarvis reported:

> It was almost surrounded by a lagoon, the so-called Shununganunga River, at some points dry, at others containing ponds of stagnant water; large quantities of manure from stables on the north bank had been thrown into its bed. Water was supplied by a conduit from the city reservoir, which derived its supply from the Kaw, or Kansas River. The water was sulphuretted and unpalatable. Inquiries of local physicians as to its potability met with conflicting replies. * * * It is my belief that the constant use of this water, and the proximity to the unwholesome lagoon, would, in a short time, have resulted in evil to the command, although during our stay but few cases of sickness were encountered. Several cases of malarial fever were developed, but the history of each case proved it to be the result of a reawakening of a former infection.

The encampment at Fort Kearney, Nebr., called *Camp J. R. Brooke*, was occupied September 1 to 29 by detachments from Forts Omaha, Robinson, Sidney, and Niobrara, Nebr., D. A. Russell, Wyo., and Du Chesne, Utah, numbering 82 officers and 1,273 enlisted men. The camp was situated at an altitude of 4,000 feet, and all the sanitary conditions were good. On the marches to the camp and return, 76 cases were taken on sick-report, 31 of which were for injury. During the encampment 144 cases were taken on the sick-report, 39 of which were for injury. Forty-one cases were transferred to post hospitals. One case of typhoid fever was developed.

The Target Camp at Fisher's Island, N. Y., was occupied from July 3 to August 31 by detachments of the Fourth and Fifth Artillery and Eleventh Infantry from posts in New York Harbor and Fort Adams, R. I. The prevalent diseases were diarrhœa and dysentery, confined almost entirely to the enlisted men, and caused apparently by dietetic errors conjoined with fatigue and the exposures incident to camp life.

March of the Eighth Cavalry from Texas to Dakota.—In May the troops of the Eighth Cavalry serving at Forts Clark, Davis, and Concho, Tex., were concentrated at the latter post for transfer to the Department of Dakota. On June 2 the command, numbering 31 officers and 602 men, marched northward through Texas and the Indian Territory, Kansas, and Nebraska, arriving on September 3 at Fort Meade, Dak., having marched on the average about 500 miles during each of the months of June, July, and August. During this march 100 cases were admitted

to sick-report for disease and 20 for injury; 14 cases of disease and 4 of injury were transferred to post hospitals.

The troops took station at Forts Meade, Keogh, Yates, and Buford, in the Department of Dakota. No evil effects of the march were reported from the detachments arriving at Forts Keogh and Yates; but at Fort Meade 9 cases were admitted to sick-report with impetigo, which is said to have been caused by fat diet, exposure, and hard water for lavatory purposes, and at Fort Buford 23 cases of scurvy were reported, 14 of which were taken on sick report, the remainder receiving treatment without being excused from duty. This detachment had, previous to the march, been stationed at Fort Clark, Tex.

Transfer of the Fifth Infantry from Dakota to Texas.—The companies of the Fifth Infantry garrisoning the posts of Forts Keogh, Mont., and Totten, Dak., were concentrated by rail May 30 at Bismarck, Dak., whence they proceeded by steamer down the Missouri, stopping at Fort A. Lincoln, Dak., to take on the company at that post; they disembarked at Kansas City, Mo., and thence proceeded to Texas by rail. Of the detachment which took station at Fort Bliss, Tex., the post surgeon reported that the men were worn out by the long trip, and the hard work in transferring baggage and saving it from the wreck of the steamer *General Terry*, which sank at Omaha. To this hard work, the heat, and the change of water he attributed the large amount of diarrhœa and fevers which prevailed. The post surgeon of Fort Davis, Tex., referred to the number of cases of acute diarrhœa that occurred in this command and attributed them to impure water while en route. At Fort Ringgold, Tex., Assistant Surgeon W. F. Carter remarked:

> Your attention is called to the increased sick-rate for the month ending July 31. It may be noted that a majority of the cases treated were taken from the companies which have been recently transferred to this post from Fort Keogh, Mont., and, further, it may be stated that the greater number of these cases have been of heat prostration and continued fever. It need hardly be a matter of surprise that these two companies, arriving at the post in the first week of July, should furnish 5 cases of fever and heat prostration. When it is remembered that the thermometer during the entire month reached 98° at about 11 or 11.30 a. m., and attained a maximum of 100° and over between this hour and 4 or 4.30 p. m., we might rather wonder that the percentage of sick was not larger. It does not seem, however, that the results in the case of this transfer have been such as to condemn the practice of changing troops from the northern to the southern frontier in the midst of summer. The per cent. of sick among the new arrivals is not particularly large; and it should be borne in mind that we have always more or less of the climate fevers in summer and autumn, even among the acclimated.

No special remarks relative to the effects of the transfer were made by the post surgeons of Forts McIntosh, Brown, and Hancock, at which the other detachments of this regiment took station.

Malaria affecting troops en route from Fort Brown to Fort Ringgold, Tex.—Company I, Third Cavalry, 2 officers and 30 enlisted men, left Fort Brown September 27, for detached service at Fort Ringgold, Tex., arriving there on the 30th. In October Assistant Surgeon W. F. Carter reported:

> It may be noted that, of the troops comprising the regular garrison of this post, but 6 have been admitted to sick report, 3 of these for intermittent fever; but in all of these three cases, except one, there is a history of previous malarial attacks, so that they may be accounted for as cases of malarial poisoning. Not a single case of fever has been furnished during the month by Troop D, Third Cavalry, which has been longest stationed at this post. On the other hand, about 40 per cent. of Troop I of the same regiment have been admitted to hospital for treatment. Of the 19 cases from this troop, all except 4 were of intermittent fever, and, as far as can be ascertained, the majority of these cases were, at different times, on sick report at Fort Brown, Tex., with malarial fevers. This troop in changing station marched through an exceedingly malarious region.

March of the Seventh Cavalry from Dakota to Kansas.—The troops of the Seventh Cavalry serving at Forts Yates and Meade, Dak., and Fort Keogh, Mont., were concentrated at Fort Meade, Dak., in May. On June 1 Troops B, E, I, and L, 13 officers and 186 enlisted men, left Fort Meade, and after marching 733 miles arrived at Fort Riley, Kans., on July 13. Thirteen men were taken on sick-report for disease during the march. Surgeon D. Bache, at Fort Riley, Kans., in July remarked:

> I regret to report the health of the troops of the command for the month as unsatisfactory, the admissions on the sick-report being 55, and the daily ineffective average 5.07 per cent. Of the admissions noted, 9 were injuries and 4 were for alcoholism. In addition to this list, 13 cases were received in hospital by transfer from commands—Eighth U. S. Cavalry and battalion Seventh Cavalry—while approaching this post or encamped in its vicinity. Setting aside what may be termed unavoidable sickness incident to a radical change of climate, such as the transfer of the Seventh Cavalry from Dakota to Kansas, and exposure to unusual heat upon the latter part of the march, I am satisfied from an analysis and personal observation of the cases, their dates of admission as well as from the results of restrictive measures, that the greater part of the sickness under discussion was directly attributable to a period of debauch following the payment of the troops. I wish to emphasize this point, because, while something may be said in extenuation of excess promoted by a period of unusual fellowship, the results are not chargeable to the sanitary condition of the post, nor, to any considerable degree, to climatic causes or forces outside of control.

March of detachment Seventh Cavalry from Fort Riley, Kans., to Fort Sill, Ind. T.—Companies E, F, H, and K, 11 officers and 185 enlisted men, left Fort Riley July 15 and proceeded to Fort Sill, arriving there August 14. During this march 8 men were taken on sick report for disease and 3 for injury.

CIVILIANS ATTACHED TO OR WITH THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employés of the various departments, together with their families, and in fact all persons not included in the personnel of the Army who are allowed to reside at military stations or accompany military commands. As shown by the consolidated reports of the Medical Department, with the mean strength of 24,726 officers and enlisted men of the Army, there was constantly associated an average of 13,829 civilians, of whom 2,760 were adult males, 5,155 adult females, and 5,914 children.

The admissions to sick-report during the year numbered for the adult males 1,519, and the deaths 30; for the adult females 6,288, and the deaths 45; for the children 5,494, and the deaths 87; or an aggregate of 13,301 admissions and 162 deaths.

The admission rate per thousand of mean strength was therefore 550 for adult males, 1,239 for adult females, and 929 for children, or 980 for all civilians; and the death-rate 11 for adult males, 7 for adult females, and 16 for children, or 12 for all civilians. For the previous year the admission rate for adult males was 422; adult females, 1,006; children, 838; all civilians, 811; death-rates, adult males, 11; adult females, 6; children, 17; all civilians, 12.

Marriages and births.—Upon the consolidated reports of the Medical Department there were noted during the year 62 marriages, of which 18 were of officers, 34 of enlisted men, and 10 of civilian attachés of the Army. There were recorded, also, 533 births—male, 279; female, 254; 115 were children of officers, 342 of enlisted men, and 76 of civilian attachés.

RECRUITING.

During the year 21,401 recruits were examined; white 19,432, colored 1,969. Of these, 11,666 or 54.5 per cent., were rejected, the rejections among the colored men being relatively somewhat more numerous than among the whites, 58.86 per cent. as against 54.06 per cent. Nearly 9 per cent. of the recruits, or 1,901 men, were rejected on account of diseases of the eye; 4.98 per cent. on account of diseases of the digestive organs; 4.61 on account of developmental defects; 4.44, general unfitness for service; 4.05, under weight; 3.83, diseases and injuries of the locomotor system; 3.48, of the reproductive system, and 3.27, of the circulation.

VACCINATIONS.

The total number of primary vaccinations reported was 1,605, of which 891, or 55.5 per cent., were successful; 768, with 415 successes, at the recruiting depots, and 837, with 476 successes, in the Army at large.

The revaccinations numbered 9,593. Of these 5,183 were at the depots and 4,410 in the Army at large; 1,611 of the former and 1,309 of the latter, or a total of 30.4 per cent., were successful.

Bovine virus was used in 1,409 primary cases, 782, or 55.5 per cent., successful, and in 7,537 revaccinations, with 2,293 cases, or 30.4 per cent., satisfactory.

Humanized virus was used in 196 primary cases, 109, or 55.6 per cent., successful, and in 2,056 revaccinations, with 627 cases, or 30.5 per cent., satisfactory.

SEASONAL AND REGIONIC DISTRIBUTION OF DISEASE.

Seasonal prevalence.—The period of greatest prevalence as to admissions covered the months of July, August, and September; of least prevalence, April, May, and June. The cases which gave the highest rates of admission in the warm months were trivial and passing as compared with those of the colder months. January, February, and March gave the largest rates of non-effectiveness, but the season of high rates was a little later in the Lake region, and towards the autumn in the South and on the Pacific coast. May, June, and July gave the smallest rate of non-effectiveness, but the period of small rates occurred somewhat later in the region of the Lakes and somewhat earlier in the South and on the Pacific coast.

The average monthly rate of admissions for the Army as a whole was 105.89 per thousand of strength; the highest rate, 122.47, in January; the lowest, 94.36, in November. The rate of non-effectiveness was greatest in January, 45.57 per thousand of strength, and least in June, 38.42.

Excluding injuries, alcoholism, and venereal diseases from consideration as being independent of seasonal influence, January and November present the highest and lowest rates of admission, 87.10 and 65.30, respectively, and June the lowest rate of non-effectiveness, 25.16; but the highest rate of constant sickness, 30.61, was furnished by the month of March.

Regional distribution of sickness.—In the last two annual reports from this office the statistics of the various military posts were consolidated by regions in order to facilitate the study of the influences exerted on the health of the troops by climatic variations. The regions into

which the country was divided for this purpose were eleven in number, as follows:

1. The region of the *Atlantic Coast*, a narrow strip of territory along the Atlantic seaboard.

2. The region of *Eastern Timbered Plains and Hills*, lying between the Atlantic region on the east and the Appalachian Mountain region on the west.

3. The region of the *Appalachian Mountains*, extending from the northern boundary of Maine southwesterly to the central portion of Alabama.

4. The region of the *Northern Lakes*, including the area bordering on the St. Lawrence River and the Great Lakes, together with the interior of Michigan, northern Wisconsin, and northeastern Minnesota, which are lacustrine in their characteristics.

5. The region of *Central Timbered Plains and Hills*, lying between the Lake region and the coast swamps of the Gulf of Mexico, with the Appalachian region on the east and the region of the Prairies on the west.

6. The *Alluvial* region, comprising the swamp-lands of the Mississippi and Red River Valleys.

7. The region of the *Gulf Coast*, including those parts of Florida, Alabama, Mississippi, Louisiana, and Texas which border on the Gulf of Mexico.

8. The region of the *Prairies*, extending from the British possessions to the Gulf of Mexico, with no well-defined line of demarkation between the regions of Central Timbered Plains and Hills and the Northern Lakes on the east and the Great Plains on the west, its surface level or gently undulating, and its timbered area ranging from 20 per cent. to zero.

9. The region of *Great Plains*, stretching from the northern to the southern boundary of the United States, and from the Rocky Mountains to the Prairie region, into which last it imperceptibly merges on the east, its features in general those of an arid, treeless plain.

10. The region of the *Cordilleras*, comprising the vast area stretching from the northern to the southern boundary of the country, and from the Rocky Mountains on the east to the Cascade range on the west.

11. The region of the *Pacific Coast*, including the whole of the western border of the country, sloping to the ocean from the Cascade range and the Sierra Nevada.

Inasmuch as certain of these regions, extending from the northern to the southern boundary of the country presented manifestly different climatological features in their different parts, each was subdivided into a northern, middle, and southern section, as in the case of the Prairies, the Great Plains, the Cordilleras, and the Pacific Coast.

The consolidation of the statistics by regions does not appear to have developed any of the substantial results that were expected from this mode of procedure. In dealing with dense masses of population, as in the census reports, regionic influences may be separated from those that are local and their effects determined with a certain degree of accuracy; but the Army of the United States is too small to solve problems of regionic proportions. Because rheumatism is as prevalent at Fort Brown, Tex., as at Fort Preble, Me., we may not say that it is as prevalent in the region of the Gulf as in that of the Atlantic coast. The tendency of the regionic consolidation is to build up regionic characteristics on what may be exceptional rather than characteristic. A single post established in a malarious valley, in a generally non-malarious region, would alter the character of the region as developed by the

statistics of the Army. Certain climatic influences are of importance in the production of disease; but these are already generally understood, and no fresh light is thrown upon them by the aggregation of the statistics by regions. If one military post has a larger sick list than another it is due to local conditions, not as a rule to regionic influences, and prevention is best effected and the health of the garrison improved by a thorough knowledge of these local insanitary conditions and the best means of removing them. If rheumatism be due, as suggested by Maj. Van Buren Hubbard, at Columbus Barracks, Ohio, to damp sheets on the beds of the recruits,* the health of that post will have a better chance of being improved by an active interest in the local conditions rather than by a study of the meteorological data or other diffused influences.

In fact, wherever in our Army higher rates of sickness than the average are found they may be set down as due to local conditions. Excluding injuries, alcoholism, and venereal diseases as not bearing on the question under consideration, the average monthly rate of admissions was 75.55 per thousand of strength, the greatest monthly rate 87.10 in January, the least 65.30 in November. In only four of the regions was the average monthly rate in excess of the general average of the Army, 75.55: The Eastern Region of Timbered Plains and Hills, 79.60; the Atlantic, 88.85; the Central Region of Timbered Plains and Hills, 121.33, and the region of the Gulf, 152.88; and in only two of these was the average monthly rate notably in excess of the greatest monthly rate of the Army, 87.10. In these two regions, therefore—the Central Region of Timbered Plains and Hills and the Gulf coast—will be found the regionic influences or the local conditions which make up the excess of sickness in the Army. Now, as 1,190 of the total of 1,443 men serving in the central region consisted of recruits aggregated at Columbus Barracks, Ohio, and Jefferson Barracks, Mo., it may be easily appreciated that regionic influences had little to do with the causation of the excess of sickness in this region. In fact, the causative conditions at both posts are well recognized as being local or individual. And the excess of sickness in the region of the Gulf is notoriously due to the local surroundings of Fort Brown, Tex.

The statistical tables that are appended to this report have been cast by regions in pursuance of the views mentioned at the beginning of these remarks regarding the distribution of disease. I think, however, that in future all consolidations of the statistics should be made to conform to the military departments into which the country is divided for purposes of command and efficient administration.

* See *supra*, page 31.

THE SANITARY CONDITION OF THE ARMY.

The sanitary reports for the year, rendered monthly from the various posts, invite attention to existing defects and to suggestions for remedying them rather than to alterations and improvements that have been accomplished. During recent years much has been done to put the quarters of the troops in good sanitary condition, but much at the same time remains to be done. Many old buildings continue to be occupied. Some of these, reported as on damp soils with rotten woodwork, deficient lighting, and little or no ventilation, are just the kind of quarters in which rheumatism, pulmonary troubles, and low fevers are developed among the men, and croup, diphtheria, and bronchial affections among the children. The old monastery at St. Francis Barracks, Fla., which is used as quarters by officers and their families, is an illustration. If the rooms in these old buildings be closed for a short time the walls become clammy with adherent moisture, covered with fungoid growths, and as unhealthy as an unventilated casemate. Other old buildings are leaky, as at Fort Yates, Dak., and Fort Selden, N. Mex., and in want of repairs, as at Fort Custer, Mont.; Fort Abraham Lincoln, Dak., and Fort Concho, Tex. Damp casemates, which in some respects are no better than the subterranean dungeons of the middle ages, are still in use as quarters, notably at Fort Hamilton, N. Y., notwithstanding the earnest protest of medical officers and others whose intimate knowledge of the unwholesome conditions affecting those who live in these structures renders their opinion of value. Overcrowding and deficient ventilation are reported from many posts, particularly from those that have a floating population, as at the recruiting depots. At David's Island, for instance, 800 men have been for weeks at a time crowded into the sleeping space intended for 600. Guard-houses are also liable to overcrowding, as the number of their occupants varies. At Fort Mackinac each person in the guard-house had for a time less than 170 feet of air-space. Even the company quarters of permanent posts are occasionally crowded. At Fort Meade, Dak., rooms which, in the opinion of the medical officer, should not contain more than 18 men, have been crowded during the year with from 33 to 47 occupants. Capt. J. Van R. Hoff, looking at the impossibility of having satisfactory sanitary conditions at reasonable expense in the barracks at Fort Reno, Ind. T., recommends the replacement of the present structures by new buildings, and Capt. W. H. Corbusier suggests a similar radical action with regard to the adobe huts at Fort Grant, Ariz.

Maj. Ely McClellan's report on the efforts to improve the sanitary condition of Jefferson Barracks will show in a general way what has been doing at almost every post in the country. The prevalence of typhoid fever at this barracks led to a closer scrutiny of the sanitary conditions, with special reference to that disease, than at other posts; but at all the posts medical officers have been continually on the alert to detect sanitary faults and remedy them, or, if this was beyond the ability of the local commander, to invite the attention of superior authority to their existence. Major McClellan's report is interesting, as

showing the difficulty of securing efficient plumbing. Many municipalities have recognized this and its associated dangers, and have called for a knowledge of sanitary principles on the part of their registered plumbers. The life and health of the soldier are of as much importance to the Government as the sanitary condition of the citizen to the municipality. It is not, therefore, too much to ask that an educated intelligence be made to supervise so important a matter. Sanitary improvements can never be carried out successfully by uneducated labor. Soldier labor at Jefferson Barracks laid down a line of sewer-pipe to carry the sewage of the hospital to the river instead of to a neighboring cesspool; and a year after this improvement was introduced it was discovered, accidentally, that the new sewer had not been connected with the hospital soil-pipes, but lay unused, while the sewage traveled its old way to the cesspool. In the basement of the hospital was found a broken drain within 3 feet of the cold-air shaft of the furnace, while a break in this wooden shaft permitted ground-air around the broken drain to be drawn into the hospital as the air-supply of its inmates. Beneath the floor of the kitchen of the quarters of the commanding officer the waste-water outflows were connected with the soil-pipes in such a manner that a portion of the outflow failed to enter, and sewer-air was free to permeate the quarters. In some of the barrack buildings leaks at the junction of the soil-pipes with the house-drains permitted sewage to infiltrate between the walls of the basement and their lath-and-plaster linings. The ventilating-pipe of a stationary basin in a set of officers' quarters was bent at a right angle to pass a joist, and was securely hammered down on the edge of the joist, thus destroying its utility. The vent-pipes of the traps of the hospital closets were set so low that water entered them, to prevent which, and at the same time save the trouble of resetting them, the soldier-plumber is said to have plugged them with putty. The lesson to be learned from such a report of sanitary improvements is not difficult of appreciation. A qualified plumber should supervise the selection and laying out of every length of pipe, the calking of every joint, the venting of every trap, the ventilation of every soil-pipe, and the satisfactory correlation of every part of the system. Without such care in its construction the plumbing work of a building or post is a danger rather than a safeguard.

In my last report (page 103) I urged the reference of all sanitary matters connected with the construction of post buildings, water-supply, drainage, etc., to boards on which the Medical Department should have full representation, inasmuch as, by reason of his special training and experience, the opinion of the military surgeon and sanitarian upon almost any question likely to be presented for the consideration of such boards must be entitled to considerable weight, while without his advice and assistance a satisfactory solution of many problems of sanitation can not be hoped for. Generally, when improvements are to be made, the views of the medical officer are requested and have due weight in the decision of unsettled points, and in hospital construction the Regulations call for the opinion of the medical officer, and constitute that officer the inspector of the work on behalf of the Medical Department; but other buildings and important sanitary works are sometimes planned and carried to completion without reference to medical opinion, as shown by the report of Maj. A. C. Girard, from Boisé Barracks, Idaho. He states that at that post a system of water-supply was planned and estimated for without consultation with the medical officer, and that buildings were erected without reference to location, drainage, or sanitary surroundings. The need of subsequent alterations, so frequently

requisite in the experience of the past, would often be obviated were the views of the medical officer to have full consideration before final action is taken in all such cases. In fact, medical officers are maintained at military posts not alone for the treatment of the individual sick, but to guard against sickness by recommendations based upon their knowledge of its causes.

At *St. Francis Barracks, Fla.*, Surgeon P. Middleton called attention to the old monastery occupied as quarters by officers and their families. Built of coquina, it absorbs water like a sponge, and, as a consequence, there is no time when the quarters are not damp and unhealthy; "and unless fires are constantly kept up the place is untenantable; the moisture condenses on the inner walls if the rooms are closed for a short time; the walls become clammy and covered with mold, and the atmosphere damp and deleterious. The parents are continually suffering with neuralgia, rheumatism, pain, and malaria, while the children have croup, colds, and catarrh: all due, undoubtedly, to the unhealthy condition of the quarters they are compelled to occupy."

At *Fort Yates, Dak.*, the barracks are reported as leaking and in need of reshingling.

At *Fort Selden, N. Mex.*, in November, it is reported that the earth roofs in use at the post leaked badly.

At *Fort Custer, Mont.*, the ventilation is reported poor, and many of the buildings old and in need of more or less repair.

At *Fort Abraham Lincoln, Dak.*, the barracks are "old, unsubstantial, badly ventilated, and much in need of repair."

At *Fort Concho, Tex.*, the barracks, quarters, and other buildings are in need of extensive repairs.

Fort Hamilton, N. Y., Surgeon A. Hartsuff: "Most of the garrison is still quartered in casemates. All the casemates leak through the earth covering; are always wet and poorly ventilated, and should be abandoned as quarters. The guard-house is one of the casemates, and, as above, is objectionable for human habitation; it should be abandoned. There is no administration building, and until within about one year one of the casemates was used for offices, but they were found to be so wet, cold, and unhealthy that said offices were crowded into a very small space in the end of the quartermaster's store-house, where they now are." In forwarding this report Medical Director C. Sutherland added: "The total abolishment of casemate quarters and guard-house is urgently recommended. The latter has long been held up to the scorn of all decent and humane persons. The defects of this post are glaring, and have been long exposed by the various post surgeons, as well as the late commanding officer serving at Fort Hamilton during the past four years. A radical change of some kind is needed to place the post in a proper hygienic and sanitary condition."

David's Island, N. Y., Surgeon J. V. D. Middleton: "There are 673 men present at the depot, and at least 600 of them in dormitories having barely accommodation for 500 men. The sick report has been quite large this month (February), and the number of cases of pharyngitis, tonsillitis, and bronchial catarrh treated may be attributed to this overcrowding." In a special sanitary report dated March 12, he stated that "during the past fortnight the sick report has been unusually large. The three wards of the post hospital, thirty-six beds, have been constantly kept full, and many serious cases of pneumonia, bronchitis, peritonitis, and erysipelas have occurred. An epidemic of measles is also imminent, as six cases of this disease have already appeared. A large number of men come to sick-call every morning complaining of dizziness, headache, diarrhœa, sore throat, cough, or some other indisposition, many of them not sick enough to be excused; but their ailments point to crowd poisoning, and if there is not some relief soon from overcrowding there will be a still larger percentage of sickness of a serious nature. Company D furnishes a larger proportion than any of the others at the present time, but they are all overcrowded. There are 150 recruits in this company, and deducting the members of the guard, sick in hospital, etc., 124 men sleep in the dormitories, * * * which give to each man only about 400 cubic feet and 45 of surface area. This is entirely insufficient; and the atmosphere is still further polluted by the coal fires, mineral-oil lamps, and tobacco smoke. There is practically no ventilation, and it is a wonder that there is not a larger sick report than already exists." The overcrowded condition was somewhat relieved by the assignment of recruits to various posts, and in June a new barrack building was ready for occupancy. In November overcrowding again became a cause of complaint, and in December the post surgeon stated, "In several of my former reports I have shown that no more than 600 men can be quartered at this depot at one time with due regard for their health, but during the past two months there

have been 700, and at one time as many as 800 men present. Recruits have been arriving at the rate of 66 per week, and as they must be quartered in some way the beds in all the wooden barracks, except in D company, have been so crowded that a space of but 3 or 4 inches was left between them. At the present date there are 696 men at the depot, and to make room for those who will arrive during the coming week it is recommended that 100 men be sent away as soon as possible."

At *Fort Mackinac, Mich.*, in September, Assistant Surgeon C. E. Woodruff reported the guard-house as too small. "Although amply large for the average number of prisoners, there are times when it is very much overcrowded, and the air-space of each man is less than 170 cubic feet."

At *Fort Brown, Tex.*, Assistant Surgeon S. Q. Robinson invited attention to the guard-house, the cells of which "contained but 345 cubic feet of air space, whereas in civil prisons, even with a system of artificial ventilation, 600 cubic feet capacity has been found scarcely sufficient; that the guard-house cells are damp, and that they are entirely cut off from the breeze which alone makes the sultry summer nights of this climate tolerable. This can not reach the occupant of a cell on account of the exterior wall and the height of the small aperture in the wall of the building which communicates with the open air." He recommends "that the practice of confining prisoners in these cells be discontinued."

At *Fort Meade, Dak.*, Assistant Surgeon G. McCreery reported the barracks as being overcrowded and having no adequate means of ventilation. "There is but one dormitory, also used as a day living room, in each set of barracks. The maximum number that the squad-rooms should contain is 18, but in the infantry barracks they are occupied by 33 and 34 men, and in the cavalry quarters by from 40 to 47. This is unwarrantable crowding; and a large percentage of the cases of sickness occurring at this post during the winter months can be traced to this cause."

At *Fort McKinney, Wyo.*, in March, Assistant Surgeon W. N. Suter says: "I would again call attention to the necessity of having a suitable place constructed for the use of the officer of the guard. In fact, the entire guard-house is in very bad condition, the floor is worn and badly jointed, the plastering has fallen in many places, and the cells are badly constructed and foul-smelling from long-continued overcrowding, requiring the constant use of disinfectants."

At *Fort Niobrara, Nebr.*, in December, Assistant Surgeon T. E. Wilcox reports: "The guard-house is of insufficient capacity, being often overcrowded. A comfortable guard-room for the officer of the guard is needed, the small building now used for this purpose being much complained of."

Fort Reno, Ind. T., Assistant Surgeon J. Van R. Hoff: "The discomfort, not to say actual suffering, resulting from extreme meteorological conditions which obtained during the month (January), emphasizes the statement heretofore made that the barracks occupied by the troops of this command are unfit for occupation. Much, of course, might be done to improve them, and I have had the honor to offer various suggestions looking to this end—new floors, ridge ventilators, etc.—but nothing within reasonable expenditure would make them sanitary. I venture this suggestion, not as a recommendation, that because the barracks are radically bad they should be allowed to become worse, but in the hope that proper authority will see the desirability of furnishing the troops of this command with healthful and comfortable habitations. Every effort is undoubtedly being made with the means at hand to improve the sanitary condition of this post, with as good results as are obtainable under the conditions, but these conditions preclude the possibility of the best results. I therefore have the honor to recommend that new barracks be built, and the present ones destroyed."

At *Fort Grant, Ariz.*, Assistant Surgeon W. H. Corbusier reported that some of the quarters are low, narrow, adobe buildings, which can not be properly lighted nor ventilated. "They are too old and too badly constructed to admit of remodeling, and should be torn down."

At *Fort Schuyler, N. Y.*, in March, Assistant Surgeon L. M. Maus says of the barrack at this post: "It is unfit, in almost every particular, for the proper shelter of troops. The building, originally constructed during the war for use as a general hospital, is now dilapidated; the sills are rotten; the roof leaky; the floors sunken; the walls badly cracked, and in places the plaster has fallen off; the doors are warped and shrunken; many of the windows fit poorly, allowing draughts of air to enter. The plastering on the lavatories has fallen off. The mess hall and kitchen of battery M, Fifth Artillery, are poorly adapted to their present uses, both being in the basement under the squad room, permitting disagreeable odors from below to ascend. This basement is dark, gloomy, and damp; the sills under the floors have rotted away, and in places the flooring rests upon the damp earth. I do not believe that this building can be made satisfactory for barrack purposes by repairs, owing to its generally dilapidated condition, and would therefore recommend that a new building be erected."

In the sanitary report of *Jefferson Barracks, Mo.*, for July, Surgeon E. McClellan reviews the sanitary work that has been performed at this depot during the past four years, and expresses the belief that, by the suppression of many gross violations of sanitary laws, the causes of disease have in a great measure been removed. During an inspection in November, 1884, he found a very complete system of sewers emptying into the Mississippi River, and removing all sewage rapidly. Along the line of the sewers there were small ventilating shafts, which connected with running traps, but where the sewers connected with the house-drains no ventilation was attempted. The various buildings were liberally supplied with water fixtures, bath-tubs, stationary wash-stands, water-closets, sinks, etc., but in the hospital only were the traps ventilated. The water-closet in use was the pan closet. The soil-pipes, which communicated with the sewers from the interior of any building, were in no instance carried above the roof. The sewage of the hospital was carried by a line of pipe-sewers to a sink-hole north of the building. In the hospital were eighteen unprotected sewer connections. In one of the basement rooms an open sewer-pipe was found within 3 feet of the cold-air shaft for the furnace. This shaft was of wood, and was badly decayed, having a large opening in its sides, which drew the air from the sewer into the hot-air chamber of the furnace for distribution to the hospital wards. The barrack dormitories were badly ventilated. In the basements were the company lavatories and bath-rooms. No attempt had been made to ventilate any of the numerous water fixtures, and the bath-tubs emptied directly into the sewers without intervening traps. All the vegetables for the use of the companies were stored in these basements. The water supply was pumped from the Mississippi River in front of the depot, and was distributed from a water-tower. The river receives the sewage of St. Louis, a city of 400,000 inhabitants, and the water used for all domestic purposes at the barracks was taken from a point only 2½ miles below the southern sewer outlet of that city.

In December, 1884, the following sanitary measures were recommended: That the common sewer along the river front be extended at least 100 yards south of the point at which it then discharged, and that the discharge be made into the river and not on its bank; that all soil-pipes within the walls of buildings be carried in a direct line above the roofs, and that in no instance should a chimney be used for sewer ventilation; that all traps within buildings be ventilated by back air-pipes; that wherever a sewer came in contact with and entered a building an outside ventilation shaft be inserted; that increased ridge ventilation be provided for the barrack buildings; that the sewer connections of the hospital be reduced to the minimum until such time as they can be removed from under the common roof; that the pan closets be replaced by improved sanitary closets; that all stationary wash-stands be removed from sleeping-rooms; that a system of sewer flushing, followed by free disinfection, be adopted, and that the storage of vegetables in the basements of the barracks be abandoned. The official reports of the examination of the water obtained from the river seemed to show it to be innoxious, therefore no recommendation looking for another supply was made; but it was strongly urged that all water to be used for both drinking and cooking purposes be boiled and filtered. I may here state that during the past four years all water used in my family has been filtered, boiled, and refiltered, and that we have been entirely free from sickness.

All of these recommendations were adopted and carried into effect except those relating to the storage of vegetables, the extension of the soil-pipes beyond the roof, and the extension of the main sewer to the water line. The benefit of these measures was especially felt in the hospital, which from that time ceased to be a hot-bed for the propagation of disease. A marked decrease in the mortality of typhoid and typho-malarial cases at this time was attributed to the improved sewer ventilation.

In January, 1885, it was recommended that the company kitchens and store-rooms be removed from the barrack buildings, and that small buildings for such use be erected for each company; that a direct line of sewer connection be made for the new quartermaster building, and that the various floors be supplied with water connections, but that no privy closet be allowed in the building; that the guard-house be furnished with additional ventilation, and a water closet outside of the building be arranged for the use of the guard and prisoners so that the privy pit might be at once abandoned; that certain sink-holes in the vicinity of the depot, which had been used for the reception of sewage, be filled up, and such use discontinued; and it was again urged that all soil-pipes within buildings be continued through the roofs, and that as far as possible stationary water-fixtures in sleeping apartments be abandoned.

During the month of April the condition of the water-supply demanded serious attention, from the large number of cases of disease occurring, which could only be attributed to such a source of infection. For some time the quartermaster's department had been sinking a well upon the river bank from which a full supply of good water was confidently expected. This fact prevented any other effort being made to secure an immediate supply of water which might be beyond suspicion. Very frequent analyses of the river water were made, and recommendations as to the neces-

sity of boiling and filtering it before it was used were repeated. In May the subject of obtaining a connection with the St. Louis water main was urged by the commanding officer, and the recommendation was made that if the Mississippi River was to continue the source from which the water supply was to be obtained, the supply should be taken from above the city, instead of below it. It was observed that each successive rise in the river occasioned an increase in the number of diarrhœal cases at the post.

The reconstruction of the hospital was not completed until May, 1886. It was thought that this improvement exercised a decidedly beneficial effect upon all cases treated. The plans for the ventilation of all sewer connections, which were placed in an annex on the north side of the building, were theoretically perfect, and great care was exercised in a constant and watchful supervision of every step of the work. A marked improvement was observed in the convalescence of fever cases; up to this time convalescence had been prolonged and unsatisfactory, but now recuperation was rapid.

The condition of the water-supply was carefully watched; analyses of water from the distributing tower and from the well were frequently made and the results obtained seemed to be satisfactory. The precaution of boiling and filtering all water before it was used was still insisted upon; and it was again urged that the enlisted men be prohibited from using water from several small streams which flowed from under the bank in front of the depot along the line of the river, the water of which was either from seepage from polluted grounds or from leakage from the line of sewers.

Recommendations were constantly made as to the necessity of protecting the recruits, as far as possible, from the effects of the pronounced changes of temperature in this variable climate, relating especially to the extremes of heat and cold. It is from exposure to these strongly contrasted conditions that a large number of cases of sickness have always occurred. This relates to all the varied conditions of garrison life as it affects the recruit, who is absolutely unseasoned to the changes of life in the new state in which he finds himself, as for instance turning out to an early reveille incompletely clad in the winter months; mounting guard without great-coats during uncertain weather; fatigue parties working when the temperature is at, or but little above, zero; and the converse, exposure to the intense heat of the sun in military duties. These demand the exercise of a wise discretion, for a continuance of such exposure invariably increases the sick-report; while it may possibly be that a relaxation of the regulations may injure the morale of the command.

The barrack buildings at this depot have always been considered inadequate to the demands upon them, and the effects of overcrowding have been strongly represented.

In November the necessity for the construction of root-houses was urged, that the practice of storing vegetables in the basements might be discontinued, and in view of the approach of cold weather, when the dormitories would be closed nearly all the time, it was recommended that every possible step be taken to improve the ventilation of those buildings. The large number of cases of preventable disease which continued to occur caused me to doubt the assurances of the quartermaster that, to his knowledge, the plumbing in the barracks was sufficiently secure to protect those buildings from the entrance of sewer gas, and a series of careful personal inspections developed the following facts:

In the basement of the building occupied by the depot detachment, and below the floor of said basement, there was a total of 78 feet of sewer-pipe unventilated save through the vents of the various water fixtures into the air-space of the building, and in quarters occupied by Companies A, B, C, and D there was a total of 319 feet of similarly unventilated sewer-pipe. This run of sewer-pipe was, in each building, protected by from one to three traps set above the surface of the floor, but in such position that they were usually empty from siphonage. No bath-tub nor wash-basin was individually protected. A strong representation of these facts was made, with the recommendation that the soil-pipe in each set of barracks be at once carried through the roofs of each building, and that every water convenience be securely trapped. This letter of recommendation closed with the following words: "It is my opinion that the sewer gas which is now shown to permeate the barracks, together with and strengthened by the evaporation from vegetables stored in the basements, is an all-sufficient cause for the large sick-report from four companies of instruction. The health of this garrison, as of all garrisons depending upon a system of sewers for the removal of waste matters, must depend in a great measure upon the condition of the sewer connections and the character of the plumbing by which such connections are made. I have had a sufficient experience at this depot to convince me that the work of soldier plumbers is not to be depended upon, and I would earnestly recommend that an effort be made to secure the services of a skilled civilian plumber who may safely be intrusted with such work." These recommendations were promptly acted upon by the commanding officer, and immediate steps were taken to correct the evils shown to exist.

A later inspection of the basement rooms in question developed the following

facts: The exterior walls of the buildings are composed of rock masonry: interior walls of lath and plaster set on studding, leaving an air-space between the two walls. The water fixtures are all arranged along the walls of these basement rooms. The sewer-pipes cross the rooms from wall to wall below the cement floor. These sewer-pipes terminate in a right-angled joint to raise them above the floor, that they may receive the discharges from the water fixtures. The open mouth of this terminal pipe was found to be raised close against the wall of rock masonry in such position that the interior wall of lath and plaster divided the mouth of the raised sewer-pipe into two nearly equal portions, one before the plaster line and one behind it. The discharge-pipe from the bath-tubs and wash-basins passed in front of the plaster wall to the open mouth of the sewer-pipe and was securely cemented therein, but that portion of the sewer-pipe behind the plaster line was absolutely unprotected and afforded a free discharge of all sewer exhalations behind the lath and plaster line for distribution to the interior of the buildings. This evil was energetically treated.

In 1887 the subject of the water-supply was still a matter of great interest, and the recommendation as to the necessity of serving for the use of recruits and all other persons at the depot only boiled and filtered water was earnestly reiterated. The well which had been dug on the river bank, and from which good results had been anticipated, was found to be a failure: it was by this time more than half full of mud from the river, and was practically useless.

During the month of February a case of malarial fever occurred in the person of a young daughter of an officer on duty at the depot. This case presented all the symptoms of sewer poisoning, and was closely studied. A careful examination of the sewer connections in this set of quarters demonstrated the existence of the following sanitary vices in what was supposed to constitute the intra-mural sewer ventilation:

A prolongation of the soil-pipe above the basement floor terminated in a "Y," into one arm of which the discharge-pipe of the water conveniences on the floors above emptied, while the other arm was connected by a tin pipe with the chimney of the house, the flue of which opened into the upper floors. This was at once corrected,—still no improvement in the case could be observed. In the room in which the case was treated was a stationary wash-stand, and my strenuous objections to its use were met with a demonstration of the fact that the outflow from said basin was trapped and ventilated. Day by day the patient grew worse, and an examination of the pipes connecting with that basin was insisted upon. On removing the flooring of the room above that in which the basin was located it was found that the ventilating-pipe from the trap had indeed been put in place, but, as it had to pass a joist in its course, the pipe had been bent at a right angle and securely hammered down on the edge of the joist, rather than take the trouble on the part of the plumber to have the joist cut away sufficiently to allow the pipe to retain its shape. The removal of these defects was followed by the recovery of the young lady. The plumbing work had been done by an enlisted man.

In April a peremptory order was issued for the removal of all vegetables from the store-rooms in the basements of the barracks and a positive prohibition of such storage in the future.

About this time it was discovered that the hospital sewage was still being discharged into the sink-hole north of the building, the use of which had been abandoned. So convinced was I that the great amount of work which had been done for the improvement of the hospital had been carefully and thoroughly carried out, and that the work of closing up the sink-hole had been effectual, that no attention had been given to it. The fact seemed incredible. To test the truth of the statement a bottle of permanganate of potash was emptied into one of the water-closets while I remained at the sink-hole. In a few minutes a most unmistakable discharge occurred. This discovery led to a careful investigation. The basement area on the north of the building was at once dug up and the line of sewer-pipe exposed. It was found that, although a run of new sewer-pipe had been laid, connections from the water-closets and lavatories in the new north annex had been made with the old run of pipe; that the new run was absolutely unused, and that the hospital sewage still went into the sink-hole and not into the river. This discovery was anything but flattering to me. I had closely watched the work as it was being done, but under my very eyes the soldier plumber had his own way. Of course, the evil was speedily corrected.

A careful investigation of all the hospital water fixtures was then made, when it was found that, although "back-air" pipes had been connected with the traps of each water-closet, and were in turn connected with the special ventilating shaft provided expressly for that purpose, the plumber, in order to save himself some trouble in having to correct an error he had made in setting the run of these ventilation pipes so low that whenever the closet was flushed the water would flow through the ventilating pipe in each trap, had filled them so completely with putty that neither air nor water could escape. This evil was corrected. There has been a constant

repetition of discovering and removing such defective plumbing. During the past year an experienced civilian plumber has been employed.

In the month of August it was discovered, almost by accident, that steps were being taken to set up a new water-closet in quarters to be occupied by officers without taking the precaution of giving a free vent to the soil-pipe. The plan was to terminate the soil pipe in the trap of the water-closet and to trust to carry off any pressure through a back air-pipe to connect with the closet trap—this notwithstanding the earnest recommendations which had been made so often during the past years. The subject was brought to the notice of the commanding officer, was promptly acted upon by him, and this violation of law was prevented.

During the same month the commanding officer prohibited the use by recruits of water except after it had been boiled and filtered. This prohibition had special reference to the water from the so-called springs on the river bank; and he further urged to immediate completion all former sanitary recommendations looking to improvements in the barrack buildings, which had meanwhile been lagging. A marked improvement in the health of the command was constantly observed and fully reported upon.

Early in 1888 the work of bringing the water-supply from the St. Louis water-mains was commenced and rapidly completed. The water-supply for the depot is now perfectly satisfactory, and the introduction has already shown how very necessary it was. So far, this year has been characterized by an absence of the grave malarial fevers which, by this time in all preceding years, had made themselves severely felt. Intermittent fevers have not been banished, and they never will be, from this depot, any more than they can be banished from other malarial regions, but so far this year they have led to no development of low types of fevers. The only case of remittent fever I have seen this year was in the child of an ordnance soldier living on the powder-depot grounds, where, as yet, the water from the city works has not been introduced. The recruits have been entirely free.

So far as I know there exists at the present time no local cause for disease in the depot, with the exception of three privy-pits, which will shortly be removed. The present state of all plumbing is good, so far as it is in the power of any one to judge without having every foot of pipe exposed. Wherever defects are found they are at once corrected, but it is one of the local causes of surprise to find defective work where least expected. An instance has within a few days been found in the quarters occupied by the commanding officer, when an examination of the sewer-pipe below the kitchen floor determined the fact that the outflows from the water conveniences of the house had never been properly connected with the sewer, and had been left in such condition that a portion of the discharge did not enter the sewer at all. There had been no attempt made to prevent the escape of sewer-gas into the house.

After an experience of nearly four years, I am of the opinion that the selection of Jefferson Barracks as the depot for cavalry recruits is a wise decision. I believe that this station affords many advantages not to be found elsewhere, and that it can be made as healthy as any station now occupied by United States troops. It has been an unhealthy station in the past simply because it has been in a miserably unsanitary condition. The same violation of sanitary laws would render any other station as unhealthy as this has been in the past. To render this a most desirable station, it will be necessary to erect new barracks which can not be overcrowded, and to demand that sanitary laws shall be observed, and to exclude entirely soldier labor from all work which can, in any way, affect the health of the garrison. Sanitary laws are so well defined in this portion of the nineteenth century that there can be no excuse for their violation, and any one who does violate them should be held to a strict accountability. I desire to take to myself no credit for the sanitary work done, when it may be that my successor may find so much undone. I simply desire to claim that the cavalry depot can not now be justly charged with being the hot-bed from which disease is distributed to the Army, and to record my strong opinion that it is within the means of possibility to make Jefferson Barracks one of the most healthy of the important posts of the United States Army occupancy.

Boisé Barracks, Idaho, Surgeon A. C. Girard: "I would most respectfully urge upon superior authority that more attention should be paid to sanitary supervision of post construction. A system of water-supply has been devised for the post, and estimated for, the post surgeon being kept in utter ignorance of the matter. A building has been estimated for as post headquarters, and is in process of construction, with no attention to ventilation except such as might be obtained through doors and windows. Buildings are erected without reference to location, drainage, and sanitary surroundings. I again urge my recommendation that no new sites for buildings at a military post be selected, nor a plan of building be adopted, nor a water-supply, nor a dumping place, nor a drainage system, be determined on, without the written report of the senior medical officer of the post on the sanitary bearings of location or construction first being obtained."

CLOTHING.

Surgeon C. H. Alden in his sanitary report for April referred the causation of headaches and heat exhaustion among the cadets at West Point, N. Y., to the stiffness, color, and want of ventilation of the uniform dress-hat worn by them. He also made strong representations as to the harmful tendencies of the tight uniform coat, trousers, and riding jackets in use by the cadets, stating that while giving an artificial set up they interfered materially with the natural development of the muscular, circulatory, and respiratory systems. In these views he was sustained by Lieut. William B. Homer, Fifth Artillery, the inspector of clothing for cadets. Orders were issued by the commanding officer to meet these objections of the medical officer, so far as could be done without interfering with the prescribed style of uniform, but as the charges against these articles of dress were considered to call for official action of a more radical character a board of medical officers consisting of Maj. Charles R. Greenleaf, Capt. J. O. Skinner, and Lieut. James E. Pilcher was convened to investigate and report on the subject.

The views of the post surgeon, the inspector of clothing, the Superintendent of the Military Academy, and the medical board are herewith submitted.

Surgeon Alden stated that—

The full-dress hat is stiff and unyielding, does not adapt itself to heads of different shapes, and therefore causes unequal and painful pressure. Its black color absorbs the sun's heat; it is not ventilated, and is unnecessarily heavy. Its injurious effects when worn for several hours in the hot sun by cadets walking extras are evident. Cases of headache and heat exhaustion have undoubtedly been caused by it. The dress hat should, to meet sanitary requirements, be less rigid and more adapted to the head, well ventilated, of a lighter color, and protect the back of the head more than the present one. The dress-coat, riding jacket, and the trousers are often so tight as to unduly compress the chest and abdomen and restrict the free play of the muscles. Indigestion and headaches, attacks of nausea and faintness, and of exhaustion on parade are more frequent among cadets than they should be, and are due, in some measure at least, to this interference with circulation and respiration. Cadets habitually unbutton the coat at the waist when eating or sitting to study, any position but the upright being uncomfortable. The coat is not only often too tight, but is so made as to force the shoulders back, holding the cadet sometimes in a very constrained and unnatural position. An erect, soldierly carriage and well-developed chest should be developed, in those who do not have them naturally, by drill and "setting-up".—if necessary, by special exercises addressed to the individual physical defects of the cadet, as in the Sargent system; they should not be artificially secured by restraints of dress and padding. The evils above noted are largely inherent in the shape and pattern of the coatee now prescribed. It can not be made sightly unless it is tight, and the trousers must be still tighter around the waist to lie smoothly under it. Then, there is a tradition or fashion in the corps that the clothing must be tight, and many devices are resorted to to deceive the tailor and inspector and secure an extra tight fit. It seems impossible to defeat them, or change the fashion, with the present style of coat. The coatee is antiquated and has been almost universally discarded as a military garment. A tunic coat, cut to figure, yet loose enough to allow free circulation, easy respiration, and play of the muscles, with loops to hold up the belt so that it need not be worn tight, is now generally adopted for soldiers, and is far preferable. The color and trimmings could, of course, be retained. Some more elastic cloth than that now used for cadet trousers would be better, as giving freer play to the muscles; this change is especially desirable for riding trousers. The shoes now worn by cadets, constructed generally on the comet principle, are too pointed and narrow, cramping the toes and tending to produce corns, a common complaint with cadets. As a board of officers is now in session, charged with the selection of a proper shoe, no further remark is deemed necessary. In inviting attention to the cadets' clothing it has not seemed best to make any recommendation in detail. My purpose is simply to urge the necessity of reform and to indicate the general principles upon which changes should be made.

The inspector of clothing stated his views as follows:

(1) I have always been in favor of a gray helmet for cadets, and one could be designed of great beauty and comfort—in fact, one was sent here as a sample some six

years ago that met with approval by many; the exceptions of the post surgeon to the present dress-hat are, in my opinion, well taken.

(2) I can see nothing to recommend the present dress-coat save the romantic association of history; on mature men it is unsightly. Its sanitary demerits are set forth in the within paper,—of the difficulties attending the manufacture I can speak. To make the coat look well and be comfortable under all circumstances is impossible. I have inspected clothing for nearly four years, and find the fourth class on entering demand loose coats—the contrast to the rest of the corps fills them with desire to emulate, until they soon resort to every device to obtain a garment like the majority. Year before last a well-meaning lad from the West, a September member of the fourth class, presented himself for the inspection of his first dress-coat. He could not breathe, his face was flushed, his speech almost impossible. I said the coat was too uncomfortable. He replied, "Yes, sir; it is. But I want her tight—I want to look like the other fellows." The lad was rather stout, with no diminution in circumference at his waist. This shows the ambition of the cadets, and it is almost an impossibility for the officer inspecting the clothing, no matter how conscientious, to regulate the extremes. He sees a model cadet in shape; his coat seems loose, and fits his shape to perfection. He, unknowingly, is continually modeling others after this ideal, and is abetting that idea of cultivating shape, form, and fit. As a loose and comfortable garment the present dress-coat would be unsightly in the extreme. In almost every case it has to be unbuttoned to eat, to sit down, to work at the board in the section-room. The artificial support to the "brace up" of the body demands a relaxation and collapse of the system when removed. It is not a permanent set up, such as is obtained by exercise. It is productive of that evil habit of wearing no white shirt—nothing but a sleeveless undershirt next the coat. It accomplishes a reduction in trunk measurements of the body while growing. It is an unusual and unnatural garment, requiring unnatural and unusual habits. To my mind the tunic, or well-fitting blouse with standing collar, compelling the use of a white shirt and civilized habits of dress, is the ideal garment for ordinary daily wear. For the growing young man the dress-coat is only suitable for full dress under arms. The dress-pants follow this change naturally.

The riding costume is unseemly, unnatural, and perfectly unfitted for its use. It is a tight-fitting jacket and trousers, of hard, unyielding, and inelastic material, and although every attention is given in the inspection thereof to perfect mobility of arms and legs, yet the torn condition of the clothes of many show there is something wrong. Jersey or Bedford cord riding breeches, buttoning at ankle, boots, thick stockings or leggins of linen, canvas or leather, a flannel blouse, loose like the U. S. Army soldier's blouse, is to my mind the ideal riding costume of a cadet.

The shoe should be stout and broad in every case; the present pattern fails to give satisfaction. In this connection I would respectfully invite attention to the overcoat of the cadet. It is a garment of considerable expense, and the efforts at economy in this respect cause the U. S. Corps of Cadets, in overcoats for inspection, to be the most shabbily dressed of any United States troops I have ever inspected. What objection is there to giving them the soldier overcoat? It is a good garment, warm, and of good appearance, and much cheaper than the cadet overcoat.

This is a subject on which I have felt a keen interest for some years, and think it imperative that an effort at a new departure be made. Sentiment should not dictate an adherence to these historical garments, if common sense and a regard for ordinary sanitary rules dictate a complete revolution therein.

The military deportment, so famous in the graduates of this institution, can be acquired by exercise. The habits of the corps are such as to induce physical progress and growth, not retard it. Why continue a garment that does retard it, and causes tailors to remark on the abnormal measurements and dimensions of their customers of the U. S. Military Academy? I respectfully submit these views as my conscientious opinion in the premises.

The foregoing papers were indorsed by the Superintendent as follows:

Referring to the objections offered by the surgeon to the use of the dress-hat by cadets when walking extra tours, may not the objection be relieved by substituting therefor the forage-cap in winter and the white helmet in summer? And no reason is known why the substitution may not be authorized.

In regard to the statement that "the dress-coat, riding-jacket, and trousers are often so tight as to unduly compress the chest and abdomen and restrict the free play of muscles," it would seem that this objection is one that should be corrected at once, and is within the control of the inspecting officer.

In regard to the "evil habit of wearing no white shirt," alluded to in the third indorsement, attention is respectfully invited to paragraph 188 of the Regulations, U. S. Military Academy, 1883, with the suggestion that the necessary steps be taken not only to secure a compliance with the regulations, but also to enforce the wearing of the white shirt.

The following embodies the views of the Medical Board:

The attention of the board was directed to the full-dress hat, the dress-coat, the riding-jacket, and the trousers.

THE HAT.—In considering the hat the board held in mind the following essentials in a military dress-hat:

(1) It should afford adequate protection to the entire head from the sun or rain in summer and the snow or sleet in winter, from the heat in the warm season and from the cold in the cooler months; it should have sufficient brim to shade not only the eyes but also the back of the head.

(2) It should be well ventilated, not coming directly in contact with the head if possible, but having an air-space between the hat proper and a rim fitting about the head, and presenting an opening near the top to afford ventilation by perflation, the only practicable method in this case.

(3) It should be of sufficiently pliable material to allow it to adapt itself to heads of varying shapes.

(4) It must be light, and the weight must be evenly distributed about the head.

(5) It must be worn with comfort, and be in no respect productive of discomfort or illness upon the part of the wearer.

(6) For military purposes it should be so constructed as not to be readily put out of shape, while it should be sufficiently ornate in appearance to satisfy the demand for brilliancy in military attire.

The dress-hat of the cadet corps is a chasseur cap made of stiff material, and provided with an exceptionally heavy leather visor. Those of the cadet privates and non-commissioned officers are furnished with a pompon set in a metal socket at the front and top of the hat, and projecting forward and upward; the officers' hat is provided with a plume and socket in the same position, but of greater weight. Upon the front of the hat is a metal cap-plate.

The weight of the privates' hat is about 10 ounces, that of the officers' something more, and in neither case would it be too heavy to be worn with comfort if distributed uniformly about the head; but the ornaments, together with the visor, cause the greater portion of the weight of the hat to fall upon the forehead just above the eyebrows. The effect of this constant unyielding pressure is to cause much discomfort and at times positive suffering. The attention of the board was voluntarily called to this point by members of the graduating class, who stated that, particularly during their first and second years at the Academy, they suffered from headaches which they attributed to the wearing of the dress-hat.

In view of the complaints which they heard concerning it, the board made careful inquiries as to the reasons for continuing the present hat as an article of apparel for the cadets. The only reasons which they were able to discover were (1) its [alleged] beauty, and (2) its firm hold upon the affections of the cadets and graduates, due to its long use—neither of them sufficient to justify its retention if it is defective from a sanitary stand-point. The board continued its investigations into the subject with considerable minuteness, and finally arrived at the conclusion that the hat was deficient in nearly all the essentials to such an article of head-dress, viz:

(1) Although that portion of the head contained within its cavity is sufficiently covered, the absence of brim leaves the sides of the head and face and the back of the head entirely without protection from the elements.

(2) It is not ventilated, and the confinement within it of the exhalations of the head, particularly in warm weather, makes it oppressive as well as dangerous to health.

(3) It is so rigid that it fails to adapt itself properly to heads of different shapes, and thus produces unequal pressure at points about its circumference.

(4) While it is light enough to be borne upon the head without annoyance, it is so badly balanced as to throw the greater portion of its weight forward upon the brows, and consequently—

(5) It can not be worn with comfort, and its use is acknowledged to tend to the production of headache, heat-exhaustion, and atrophy of the hair follicles.

THE COAT.—The essentials in a military dress-coat for the use of growing lads differ in some respects from those for a fully developed adult, but they may be briefly stated as follows, warmth and adequate covering being premised:

(1) It should be comfortable to the wearer.

(2) It should not bind his body at any point nor cause any distortion of the figure or loss of elasticity or power of any portion of the frame.

(3) It should not compress the chest or abdomen or interfere with the functions of circulation, respiration, or digestion.

(4) It should not embarrass the process of development of the youth.

(5) It should be so made and ornamented, and of such material, as to adapt it for use as a military garment.

The dress-coat of the corps of cadets is a coatee of antiquated pattern, modeled after

the now discarded uniforms of certain foreign regiments of the last century. It is a tight-fitting jacket with two flaps hanging from the rear in the manner of the evening dress-coat. Its form is such that tightness is essential to neatness. And this requirement of tightness in the coat renders it necessary for the trousers, underneath it, to be still tighter.

Were the coatee made loose, so that the trunk could be treated as a cylinder, the garment would be ungainly and present an irresistible tendency to slip up so as to display the undergarments between the trousers and its lower margin. This can be prevented only by compressing the trunk into the shape of an inverted cone. A satisfactory fit of the garment then demands a tight fit. So tight a garment can not be comfortable. That this is true in the case of the coatee is evident from the fact that when studying in their rooms or *en negligé* the students invariably unbutton it. When eating, they give free play to the abdomen by the same maneuver. A common means of relieving the pressure is the discarding the white shirt and wearing only the undershirt, a practice neither healthful nor cleanly.

In order to test the sensations experienced while wearing the coatee, one of the members of the Board put on the coat of a cadet, the circumference of whose chest was the same as his own. At first it seemed hardly possible to bring the edges of the coat together, but, after availing himself of the instructions of the owner of the garment, who practiced upon him the maneuvers customary among the cadets in getting into the coat, he was able to fasten it about him. Discomfort to the extent of actual pain was experienced, particularly at the level of the ninth rib, which was pressed inward, although the amount of compression was greatest at the waist. The chest movements were greatly impeded and confined; thoracic, and in particular abdominal, respiration was markedly limited; and while it seemed possible that the wearer could become so habituated to the pressure of the garment after wearing it for a considerable length of time as to be able to endure it without suffering, the functions of circulation and respiration would undoubtedly be impeded by it.

The effect upon the conformation of the cadet of the wearing of the coatee is particularly noticeable when, after his four years' course, he appears in the uniform of an officer, and it is a familiar sight in our service. Instead of presenting a figure formed according to the canons of art for his sex—sloping inwards from his shoulders to his heels—he presents a form similar to that of a woman as distorted by a corset, a figure defensible neither from an artistic nor a utilitarian stand-point. The lower ribs are compressed and a deformity of the thorax is produced which frequently requires several years of common-sense apparel before the elasticity of the young man's frame can entirely correct it. Atrophy of the muscles of the abdomen and loins is produced, together with a certain amount of displacement of the abdominal viscera.

At least one instance is known to the Board where a cadet, after having been on leave for less than a month, was made ill by the pressure of his coatee, which he donned after having worn civilian clothing for so short a time.

In order to ascertain positively whether the alleged pressure of these coats existed or not, and if so to what extent, the Board made girth measurements of fifteen members of the graduating class, chosen at random, over the coat and about the nude body. It was found that the *average compression* exerted at the waist by the coatee *was an inch and a half*, while in one case it was *three and three-quarters inches*, and in only one was there none at all.

In considering the effect of this compression, it should be remembered that the coatee tightly surrounds the chest as well as the waist, so that its wearers do not even have an advantage equal to the tightly-corseted woman, whose thoracic respiration is comparatively free, although her abdominal respiration is prohibited.

In case of a predisposition to any weakness, either of the respiratory, circulatory, or digestive apparatus, the wearing of this garment would inevitably increase the tendency, if it did not actually prove the exciting cause to the development of disease. It is worthy of note in this connection that one of those members of the graduating class whose coatee exerted the greatest pressure presented a varicocele of considerable size, the growth of which could be attributed directly to the obstruction of the venous circulation caused by his coat.

Upon careful inquiry into the grounds upon which its adherents base their desire for the retention of the coatee, the Board obtained four principal reasons:

(1) It is vested with all the interest which tradition can give.

(2) It is neat and military in appearance.

(3) It imposes upon the wearer a soldierly figure and military deportment.

(4) It has stood the test of half a century's use, and the officers graduated from the Military Academy during that time have been men of good physique, who have evinced no ill health traceable to the use of the garment under consideration.

The first reason is purely sentimental in character, and, while thoroughly worthy of consideration, should not be allowed to stand for an instant if the garment can be shown to be detrimental to health.

The second has no weight if a garment as neat and soldierly be substituted for the one under discussion.

The third is based upon an utterly false principle. It is not desirable that the officers of our army should be recruited from young men who owe their soldierly figure and military carriage to their tailors. These qualities are eminently desirable, but every effort should be made to obtain them by the development of defective portions of the body, rather than by atrophy of the more active ones, such as is produced by encasing the frame in an unyielding harness. And the Board can not too strongly urge the adoption of a scientific system of physical culture directed toward the correction of the bodily deficiencies of the individual cadets, which to be effective should extend throughout the entire course.

The fourth reason is the only one that carries any real weight, for it is specious and plausible. Admitting the truth of it, however, it should be remembered that the members of the corps of cadets are picked lads, chosen in the first place in many instances because of their fine physique as well as their mental capacity, and in every case required to have a certificate to the absence of physical disqualifications from a board of medical officers. Starting with this foundation of good material, as the years of the course pass by the weaker men drop out, until, through this sifting process, the men who are sent into the service are of exceptional vigor. They are the men who have been able to resist the sanitary defects of their environment: the weaker have gone to the wall. The graduates who have received their commissions would be expected to present no physical disqualifications; if they did, the medical examining board failed to do its duty. As a matter of fact, however, would not those who succeeded in graduating have been still stronger had the course been free from unsanitary surroundings? And would not many who fell by the wayside for physical reasons have developed a robust physique and added greatly to the strength of the service?

Throughout this report references have been made to the ill effects of wearing such a garment as the coatee, and it is but natural to inquire whether such troubles have been common among the cadets or not. In his sanitary report for April, 1888, the post surgeon calls attention to the fact that "indigestion and headaches, attacks of nausea and faintness and of exhaustion on parade are more frequent among the cadets than they should be, and are due in some measure at least to this interference with circulation and respiration." Troubles such as these would be the natural consequences of wearing a garment like the coatee, and the Board unqualifiedly indorses the opinion of the post surgeon.

RIDING-JACKET AND TROUSERS.—The criticisms already made upon the tightness of the coat are applicable to the riding-jacket and trousers, the latter particularly about the waist.

CONCLUSION.—In view of the foregoing facts, the Board concludes *that the dress-hat, coatee, and riding-jacket now worn by the corps of cadets are inherently faulty in their pattern and construction, and so productive of evil consequences to the wearer that they should be abandoned and articles of better sanitary character substituted for them.*

The trousers are worn too tight about the waist; this can readily be remedied by proper instructions to the tailors and by the provision of suspenders.

A properly-constructed felt helmet of light weight would meet all sanitary requirements and be at the same time a handsome and military covering for the head.

A blouse or tunic, cut closely enough to the figure to fit neatly, would be an advantageous substitute for the coatee. If properly made, this garment could answer for both dress and fatigue occasions and for riding, as does the blouse of the officer or soldier of the Army. It would also permit an economy, the "second-best" blouse being available for all other than dress occasions.

As the outcome of this inquiry into the clothing of the military cadet certain changes were made in the Regulations for the U. S. Military Academy. Paragraph 90, relating to the dress-coat, was amended, and the riding-jacket formerly provided by paragraph 91 was replaced by a blouse, as follows:

90. *Dress-coat.*—A gray cloth coatee, conforming closely to the shape of the wearer, but *not tight-fitting*, single-breasted, etc. [Here follows a description of the trimmings.] Square stand-up collar, in height to correspond to the height of the neck of the wearer, but in no case to rise higher than to permit the chin to turn freely over the linen collar projecting slightly above it: fastened in front with two, or, if necessary, more black hooks, and with black cloth slips to cover any opening which may appear. * * *

91. *Blouse.*—Of gray cloth, conforming closely to the shape of the wearer, but *not tight-fitting*, to be sufficiently short not to occasion inconvenience in riding; to button in front with a single row of five flat black buttons underneath a fly; square stand-up collar, the same as prescribed for the coatee excepting the trimmings, and to be trimmed as follows. * * *

This blouse will be substituted for the riding-jacket heretofore in use. The linen collar referred to in this and in the preceding paragraph to be a straight white linen collar, lapping in front, buttoned on the white shirt, and of such a width as to just appear above the edge of the standing collar of the dress-coat or blouse.

The use of white clothing* for summer wear is heartily commended at certain posts, and the leggins issued for troops in active service appear to have met with favor. The most notable defect in the clothing as at present issued seems to consist of the use of cotton instead of woolen drawers at posts in northern climates, where the temperature drops sometimes so low as to freeze mercury. These drawers give insufficient protection to the legs of men whose duty calls them out in such severe weather. In two instances the shoes furnished by the Quartermaster's Department were said to be leaky, defective in their stitching, and unsatisfactory as to durability.

At *Fort Hancock, Tex.*, in July, the white uniforms were worn by the command, and added much to the comfort of the men.

At *Fort Clark, Tex.*, in June, Surgeon B. F. Pope reported that the use of white clothing by the officers and men had become quite general. The only complaint he had heard was of the shrinking of the cloth, "so that the pantaloons can hardly be worn after one or two washings."

At *Fort McIntosh, Tex.*, Surgeon J. H. Bartholf reported the white clothing for hot weather a great gain over the heavy woolen clothing of the uniform.

At *Fort Ringgold, Tex.*, Assistant Surgeon W. F. Carter remarked that the change from the dark to the white uniform, recently made at his post, seemed to have given general satisfaction.

At *Fort Pembina, Dak.*, in February, Assistant Surgeon R. G. Ebert recommended that "good woolen drawers be furnished to this command. The legs are the least protected portion of the body; the trunk and arms have the protection of woolen garments, with a perfectly fitting fur coat to exclude the wind, whereas from midthigh to ankle the cotton drawers and cloth trousers are the only defense against a temperature that may reach 40° or 50° below zero."

At *Fort Totten, Dak.*, Assistant Surgeon A. A. DeLoffre, in January, stated that "the clothing of the men is of good quality, with the exception of the underclothing, which might be better. The same quality of underclothing is issued for summer and winter, and is a mixture of cotton and wool, the cotton being in excess. In my opinion, it is too heavy for summer and too light for winter. Many of the men provide themselves with lighter or thicker underclothing, according to the season."

Assistant Surgeon J. L. Phillips, *Fort Sisseton, Dak.*, considers that the cotton or canton-flannel drawers issued, as also the dark blue trousers of the men of the hospital corps, are not sufficiently heavy, or of close enough texture, for the severe winters of Dakota.

Fort Leavenworth, Kans., Surgeon A. A. Woodhull: "Notwithstanding the severe cold lately, and still present, no cases of frostbite have occurred in men who have used the protecting uniform now supplied. This is in such strong contrast with my observation in a very similar climate some years ago, before the warm coverings for the hands and head were supplied, that I think it worthy of formal record as distinct progress in the better care of the men. Several cases of frostbite that are under

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* *White clothing.*—(See G. O., No. 76, A. G. O., 1879.) Conclusions of the board of officers convened by S. O., November 11, 1878, etc.: * * * "In extreme southern latitudes, in summer, commanding officers are authorized to sanction, on duty, the blue flannel sack coat, white pants, and a straw hat; the two latter to be bought out of the pay of the soldier, of the local merchant or trader." * * * Army Regulations, 2757.

G. O., No. 80, A. G. O., 1888: * * * "By direction of the Secretary of War, the paragraphs of the Regulations numbered * * * are amended to read as follows: Par. 2757. In extreme southern latitudes, in summer, when the necessity for such issues are certified by the department commander, and for troops not attached to any military department, upon the approval of the head of the respective staff department to which they belong. The suit to consist of a sack coat, trousers, and overalls, according to pattern in the office of the Quartermaster-General. Coats and trousers to be of bleached cotton duck for non-commissioned officers and bandsmen, and of unbleached cotton duck for privates. All overalls to be of unbleached cotton duck. These articles will be charged at cost prices, but they do not form part of the annual money allowance."

treatment only emphasize this, for in each case the man exposed himself unnecessarily without using the blanket-lined canvas caps."

In August a part of the Seventeenth Infantry marched from Fort D. A. Russell, Wyo., to Kearney, Nebr., a distance of about 338 miles, in twenty-two days. According to Assistant Surgeon F. J. Ives, who accompanied the troops, the number of men falling from the ranks by reason of disability incidental to marching was comparatively trifling. "This was, in my opinion, in great part due to the admirable qualities of the canvas leggin now issued by the Quartermaster's Department. Besides the neat military appearance which its uniform use imparted to the battalion, it had the additional quality of promoting cleanliness by not admitting the ingress of dust. Although but little rain fell during the march, its efficiency as a protector against moisture was fully tested, as nearly every night a heavy dew fell. The leggin protected both the trousers and the greater part of the shoe, so that when the command moved off free movement was not impeded by wet feet and damp, heavy trousers; the former predisposing to blisters, and the latter producing unnecessary fatigue by collecting mud and dust. On dry roads the leggins exclude the dust from the shoes, thereby making the march more comfortable and diminishing the chance of blisters. Greater freedom of motion is also effected by means of the trousers being bound to the leg. They are light, easily put on and removed; only in two instances did I notice any ill effects on the feet and legs of the wearer due to heat by the additional covering. Both cases yielded to slight treatment and no further complaint was made. The present style of blanket bag is totally unfit for service when the soldier is required to carry it fully packed, according to regulations. Being heavy and clumsily attached, it impedes free and easy respiration. The narrow straps which support it on the shoulders press constantly on the same spot, so that, there being no method of changing the pressure, the discomfort becomes aggravated into actual pain; the soldier must either be excused by his company commander from carrying it, or report to the medical officer for treatment, which treatment consists merely in removing the blanket bag. Unless some means can be adopted of transferring the weight from one portion of the body to another, many men must necessarily become disabled if forced to carry the pack now in use."

Fort Washakie, Wyo., Assistant Surgeon C. F. Mason: "I have long been convinced that the canton-flannel drawers issued to the enlisted men are inadequate as a protection against the extreme cold of the winter weather in this latitude. The readiness with which the whole body becomes chilled when the legs are exposed to cold is easily understood, and one has only to remember that the men here have often to walk post with a temperature of 40 or more degrees below zero to appreciate the dangers to which they are exposed. Further than this, direct inquiry has elicited the fact that the men, without exception, find the drawers insufficient, and are quite willing to pay a higher price for a woolen garment. Complaint is also universal that the shoes absorb water rapidly, and are too stiff, fit badly, and render the feet sore during marches."

Boisé Barracks, Idaho, Surgeon A. C. Girard: "I deem it my duty to call attention to the frequent complaints of the enlisted men against the durability of the shoes and boots supplied by the Government. The stock appears good, but the soles give way in a month, latest in two months, if steadily worn. The soles appear too light, to judge from the fact that the men have a double sole put on in town as soon as they draw their shoes and boots; but the greatest trouble seems to be in the breaking out of the stitches, showing that the stitching is too close. When the men want serviceable shoes they pay a large price in town rather than draw at one-third of the cost. This does not seem right, and could easily be remedied in the manufacture. It is also claimed that the cavalry boots are not water-tight, even to a reasonable degree."

Fort Mackinac, Mich., Assistant Surgeon C. E. Woodruff: "It is my opinion that both the light-colored campaign hat and the forage cap are too heavy and hot for those warm days in July and August when the sun is very hot and the temperature of the air high. A light-colored straw hat would be preferable to either, and I would recommend it for use in duties requiring the men to be for any length of time in the sun. Should it be impossible to obtain straw hats, the campaign hat would be better than the forage cap. The latter is a source of danger from sunstroke when worn in the heat of the day, as it keeps the head hot and uncomfortable. It often happens at this post that very hot days are succeeded by cold nights, and these rapid changes necessitate changes in clothing and head-dress, so that a variety of head-dress is a necessary evil."

Santa Barbara, Cal., Surgeon R. H. White: "The fatigue cap is an imperfect covering for the head, and altogether inadequate protection against the fervid sunlight of this unclouded sky. The cap is useless and should be substituted by the fatigue hat, as much as may be, which is an excellent and appropriate part of the uniform for general use in this climate. One case of acute conjunctivitis has already occurred to the command, due to sunlight."

FOOD AND COOKING.

Comparatively few complaints have been made during the year concerning the diet. Company gardens at many of the posts provide the messes with an abundance of fresh vegetables. At Fort Niagara, N. Y., the commanding officer found the ration incompetent to provide a sufficiency of vegetables for his men; but it is chiefly in the southwest, where there is no sale for the savings of pork, that the company messes find it difficult to procure vegetables, and the men have to contribute from their private funds for the purchase of such as are imperatively needful to vary the diet. From San Antonio, Eagle Pass, Pena Colorado, and Fort Elliott, Tex., such reports have been received. At a few posts, as Fort Bennett, Dak.; Fort Lewis, Colo.; Concho and Eagle Pass, Tex., and some others, the fresh meat was at times reported tough and otherwise of poor quality. The issue of lean meat lessens the value of the ration by increasing its proportion of bone, while at the same time its edible portion is inferior in nutritious qualities. At San Antonio, Tex., poisonous effects were produced in one company by the ptomaines in spoiled meat. Potatoes were reported bad at several posts; cod-fish and hams at Fort Clark, Tex., and corn-meal, oatmeal, crackers, etc., at Fort Ringgold, Tex. In connection with the deterioration of subsistence supplies by long-continued storage at the last-mentioned post, Assistant Surgeon W. F. Carter suggested that this could be readily prevented by the purchasing officer keeping a debit and credit account with the post and shipping in small quantities as required; and apropos of this long-continued storage, the medical officer at Fort Bliss, Tex., stated that at his post there was a supply of barreled pork sufficient to last the garrison for three years. The chief subsistence officer of the department of Texas explained this unusual surplus of salt pork at Fort Bliss, and disposed of Assistant Surgeon Carter's recommendation by showing that under existing methods of supply no post can have less than one nor more than four months' supply at any one time; that the articles furnished to Ringgold were from the same stock as those sent to other posts in the department from which no complaint as to quality had been received, and that no advantage would be gained by more frequent issues to the subsistence officers of the posts.

Several complaints of bad or sour bread have been reported during the year, as from Fort Preble, Me.; Fort Mackinac, Mich.; Fort Riley, Kans.; Fort Robinson, Nebr.; Camp Pena Colorado, Tex.; Denver, Colo., and Fort Thomas, Ariz., generally attributed to accident or carelessness, and occasionally to incompetence or inexperience on the part of the baker. At David's Island, N. Y., and Fort McKinney, Wyo., issues of bad bread appear to have been due to a poor quality of flour.

The army cooking has been generally of good character, as but two complaints have been made under this heading. At Fort Grant, Ariz., and Fort Meade, Dak., the coffee is said to have been spoiled by injudicious boiling, and the meat at the latter post by overbaking.

The following, condensed from sanitary reports and other papers, forms the basis of the remarks just submitted:

At *Fort Stanton, N. Mex.*, in the sanitary report for June, Assistant Surgeon M. E. Taylor, speaking of the admirable garden at this post, stated that, "with the exception of potatoes, all ordinary vegetables are provided to the troops and company messes. The good work does not end with the furnishing of vegetables, for exchanges secure other things not on the ration list, without encroaching upon established funds. Each troop and company has its own garden. The hospital has an independent one, which is excellent."

At *Fort Niagara, N. Y.*, in October, Assistant Surgeon J. D. Hall took exception to the savings on coffee by the reboiling of the old coffee for two days. The post commander stated in his indorsement that company commanders are forced to use these means to make savings in order to provide the men with fresh vegetables, and that, in his opinion, weak coffee is preferable to lack of vegetables. "It is the fault of the ration and not of the company commanders."

At *San Antonio, Tex.*, Surgeon F. L. Town reported that the ration did not admit of the purchase of the necessary supply of fresh vegetables for company messes.

At *Camp Eagle Pass, Tex.*, in August, Assistant Surgeon P. R. Egan reported that the ration was fair, but had to be added to by contributions from the men for potatoes and onions; the meat supplied was at all times tough, and lately had been unfit for use; the potatoes were very inferior in quality. In forwarding this report the post commander remarked that every complaint about the beef had been acted on, and the contractor brought to terms as near as possible. The potatoes were new, and there was a loss of about half of them, and none of them were good. New potatoes decay rapidly. There is no opportunity for a garden at the post, and as there is no sale for the barreled pork, the small savings do not furnish sufficient funds to purchase vegetables without contributions by the men.

At *Camp Pena Colorado, Tex.*, in January and February, complaint was made of the salt pork as an article of diet, and that the men of the command contributed for the purchase of vegetables.

At *Fort Elliott, Tex.*, Surgeon J. P. Kimball, in September, remarked: "The usual good character of the rations of the men has not been fully maintained this month, the bread on several occasions having been heavy and sour, through incompetency or inattention on the part of the post baker. The variety in the ration has also been unduly limited, owing to the impracticability of procuring a proper supply of fresh vegetables."

At *Fort Bennett, Dak.*, in February, Acting Assistant Surgeon J. B. Ferguson reported that the fresh beef received from the contractor had been, as a rule, tough and of poor quality. Judging from the appearance of the meat, the animals slaughtered had been old as well as lean. "This gives an undue proportion of bone in the amount received, and virtually lessens the ration of fresh beef of every soldier at the post. The nutritious qualities of poor beef are far inferior, pound for pound, to those of good beef; and hence a larger quantity of poor beef should be issued to supply the deficiency." In his report for March he notes that the beef furnished has improved in quality.

At *Fort Lewis, Colo.*, in April, Assistant Surgeon C. B. Ewing reported the beef as so poor in quality, lean, and tough that complaint had been general regarding it. "The beef supplied is the ordinary range beef, and it is difficult to obtain a better quality during the latter part of the winter and spring. Hence I recommend that proposals be made and contracts let for the furnishing of stall-fed beef, to be delivered here during the months of February, March, April, and May of each year."

At *Fort Concho, Tex.*, in January and February, the fresh beef was reported as being at times poor and tough. In March Assistant Surgeon C. M. Gandy stated that the contractor having failed to furnish fresh meat for a considerable portion of the month, the necessary supply was purchased in open market, and proved to be of a quality very superior to that regularly supplied. "The beef now drawn from the contractor is a great improvement on that formerly furnished."

At *San Antonio, Tex.*, in August, Surgeon F. L. Town reported that 28 men of Company D, Nineteenth Infantry, had been more or less poisoned by ptomaines contained in spoiled meat.

The post surgeon at *Fort Hancock, Tex.*, reported that the potatoes received in August were of an inferior quality. The medical director, in forwarding the report, remarked: "Potatoes can only be preserved during the heated season in Texas by spreading them out in a thin layer fully exposed to the air. Considerable losses are liable to occur if they are any length of time (more than a few days) en route to posts. There is scarcely a doubt that the potatoes shipped to Fort Hancock and other posts in the department by the chief commissary have been apparently sound when turned over to the quartermaster's department for transportation to their destinations."

At *Fort Clark, Tex.*, Surgeon B. F. Pope reported that fully two-fifths of the potatoes were unfit for use; codfish and hams were in several instances bad and unfit for sale.

At *Fort Ringgold, Tex.*, in August, Assistant Surgeon William F. Carter remarked that the potatoes were of poor quality; they decayed rapidly, and probably one-half to two-thirds of them were lost to the companies. In October he stated: "Many articles of subsistence stores supplied to this post are found upon examination or

issue to be in bad condition, and frequently so inferior in quality as to be totally unfit for use. So constantly has this been the case with regard to some articles, such as corn-meal, oatmeal, crackers, etc., that the post may be said to have been practically without them. In most instances it can not be determined whether the supplies were in bad condition when received or whether they have deteriorated during their period of storage at the post. The rule in the Subsistence Department, which requires the issue or sale of supplies in the order in which they have been received, necessitates the storage of original boxes and packages for a longer or shorter period in the commissary building; and for this reason it would be manifestly improper to state, at least positively, whether they were or were not in good condition at the time of their receipt. It would certainly be to the interest of the Government, as well as of its beneficiaries, if some method could be adopted by which a better class of stores could be supplied. All preparations of the cereals are speedily attacked by weevil, and are soon rendered worthless. A large proportion of the corn-meal, corn-starch, hominy, cracked wheat, macaroni, crackers, oatmeal, and at least a good deal of the flour supplied to the subsistence department at this post is annually submitted to boards of survey for inspection, and the loss sustained in this way is certainly not inconsiderable. The problem as to how this loss to the Government and inconvenience to the troops are to be prevented or lessened is, I believe, a practical one, and one which should receive the attention of the proper authorities. The post commissary is required to make his estimates for stores to cover too long a period, a period in which, even should the stores be received in good condition and fresh from the factories, we might expect them to undergo some deterioration; but even should the post commissary make his estimates for six months or a year, it does not follow necessarily that the whole amount required should be supplied at once by the purchasing commissary. He might keep a debit and credit account with the post, and ship frequently and in small quantities, by the shortest or most expeditious practicable route, such stores as quickly spoil in this climate. Many stores do not bear transportation well, particularly during the hot season of the year, and time saved in their transportation often means the saving of their entire cost (first cost and transportation) to the Government. I believe some changes in the manner of putting up certain stores might be very advantageously made; for example, the tin boxes in which crackers are put up should be hermetically sealed immediately after they are filled at the factories; oat-meal, cracked wheat, etc., would, I believe, keep better in sealed, light tin boxes."

In October, Assistant Surgeon S. G. Cowdrey, at *Fort Bliss Tex.*, stated: "There is now on hand at this post a supply of salt pork for this command for nearly three years." On this statement the chief commissary of subsistance, Department of Texas, indorsed an explanation, as follows: "On February 20, 1888, I received from the Commissary-General of Subsistence his letter dated February 16, 1888, directing me to report at once what amount of pork you will require to be shipped to the Department of Texas before next December, in addition to the quantity called for on your last tabular statement. This information should reach here by the 27th instant." In preparing this estimate for Fort Bliss, the requisition from that post for the nine months ending September 30, 1888, was taken as a basis In observance of the prevailing system of supply it became necessary to estimate for the quantity of pork that would be required to supply Fort Bliss to March 31, 1889, the stores for the first quarter, 1889, *being due at posts on December* 1, 1888. The exact figures in making this estimate were:

	Pounds.
Required for nine months (January 1 to September 30)	5,343
Two-thirds of this supply for six months (October 1 to March 31)	3,562
Less savings, as estimated by acting commissary subsistence	66
To be supplied	3,496

I requested 18 barrels (3,600 pounds) pork shipped to supply the post to March 31, 1889.

Reports received from Fort Bliss show that if two-tenths pork had been issued—

	Pounds.
The total amount consumed by issues from January 1 to September 30, 1888, would have been	5,015
Less savings estimated by acting commissary of subsistence	100
Actual consumption	4,915
Instead of this the issues during that time have been	3,419
Savings	1,356
Actual consumption	2,063

The foregoing figures account for an accumulation of 2,852 pounds of pork in the nine months ended September 30, 1888.

In a subsequent communication to the Commissary-General of Subsistence the chief commissary of subsistence, Department of Texas, reported that "issues of bacon, which must be kept on hand at all the posts for scouting purposes and for occasional issues, were ordered by the post commander under Army Regulations 2161, which reduced the consumption of pork, and this, together with the savings of pork, so largely in excess of the estimate made by the acting commissary of subsistence on the requisition which was made the basis of my call for the 18 barrels of pork to supply the post to March 31, 1889, will account for the excess of that article now reported on hand. To reduce the supply of salt meats at Fort Bliss so that the prescribed issue of two-tenths pork should be made to troops in garrison without allowing bacon to remain on hand to deteriorate by long storage, I have had 2,000 pounds of bacon sent from Fort Bliss to Camp Pena Colorado, for issue to Seminole-Negro Indian scouts in the field. I am well aware that even with the utmost care on the part of those making requisitions an excess or shortage may occur; but, as a rule, under present facilities for rapid transportation, the first can be remedied by shipment to other points, and the last by a prompt supply of the stores needed."

The stores supplied Fort Ringgold are of the same quality as are shipped to all other posts in Texas, and consideration as to the adoption of rules or plans by which "a better class could be supplied," and also as to the propriety of packing the stores in hermetically sealed tins, rests with the purchasing officers. But few complaints are received from other posts in this department, and it is supposed that as good articles are obtained for Fort Ringgold as for the rest of the department. Corn-meal is purchased at San Antonio, Tex., and is sent, newly ground, from the mills once each month, averaging from 200 pounds to 300 pounds each shipment. I do not consider it advisable to divide this quantity in order to make shipments more frequently. The other articles named are generally supplied to Fort Ringgold from depots as follows: From Chicago, corn starch, hominy, cracked wheat, crackers, and oatmeal; from New York, macaroni; from St. Louis, flour, for issues, and family flour; and are, I believe, of proper quality when purchased.

Requisitions are prepared to comply with the instructions conveyed in Circular No. 3, Office Commissary-General of Subsistence, October 14, 1884, which, in paragraph V, directs that "the periods of such requisitions should be so arranged as to require shipments to a post not oftener than once in three months, except of butter, cheese, fresh potatoes, or other *specially perishable articles*." The system of supply can be illustrated as follows: It is assumed that the posts have at this date subsistence stores on hand to last to March 31, 1889, a *four months' supply*. I am at this date sending to the various purchasing points calls for subsistence stores to supply the posts to June 30, 1889, the stores to arrive at the posts on or before March 1, 1889, on which date it is assumed there will be one month's supply on hand. On January 1, 1889, requisitions will be received from posts for stores required to supply them to September 30, 1889. The quantities to be supplied on these requisitions will be requested shipped so as to arrive not later than June 1, 1889, one month in advance of the quarter in which they will be consumed. *Hence it follows that there should never be more than four nor less than one month's supply on hand, provided the requisitions are correctly prepared.* In view of this I can see no good or sufficient reason for shipping stores from principal purchasing points more frequently than once every three months, and no reason to change the views previously given in my indorsement of November 29, 1887, to the Commissary-General of Subsistence upon an extract from the report of the inspector-general, Department of Texas, as follows: "If stores were put up by packers every month throughout the year it might be desirable to have them shipped in monthly installments, but as they are not, but are only packed in certain seasons of the year, I can not see that any real advantage would be derived from shipping monthly instead of quarterly. Monthly shipments of the same pack will not make the articles any fresher than they are under quarterly shipments. Shipments from the middle of April to the end of September should be avoided, when practicable, in this department, as the stores become heated by exposure on railroad platforms and transportation in close box-cars. This heating has a tendency to cause greater deterioration in stores after receipt than would occur in stores shipped and received during a cool season and properly cared for in well-ventilated store-houses during the heated term. During the other periods of the year the temperature generally throughout the department is well suited for shipments and storage—neither too hot nor too cold; hence, whilst in the hot period shipments should be avoided, in the cool or temperate period monthly shipments are not absolutely necessary, if stores of the newest crop are purchased." Of course, at a post as improperly provided with storage facilities as Fort Ringgold, it is probable that supplies of the best character are liable to spoil even if kept but one month on hand. As to supplying the posts of Forts Bliss and Ringgold more frequently than is now done,

I would state that if it is considered necessary each post can be supplied once a week, but I do not recommend that such a course be adopted. Fort Bliss is in latitude 31° 46′ 5″ N., the most northern post in the department, and Fort Ringgold is in latitude 26° 22′ 1″ N., and is (except Fort Brown) the most southern post in the department, and if a change in the method of supply is made for these posts it should be made for all the other posts in the department."

In a report on the methods and probable errors of investigations into the quantity of food requisite for a man in health, and the impossibility of making a perfectly accurate ration, Assistant Surgeon C. E. Woodruff says: "The soldier is one peculiarly liable to great fluctuations in his daily work; at times almost idle, and at others called upon to perform the most laborious duties. His ration must be large enough to feed him during times of the greatest exertion, even should it allow of very large savings in times of idleness. * * * It often happens that the soldier has but little to do, especially in winter in the colder parts of the country, and then he leads almost a sedentary life. Variety of food at such times is essential to keep him in perfect health. It is true that in time of war difficulty of transportation makes a greater variety of food impossible; but in times of peace there is no reason we should not have a much more liberal ration, and, if necessary, its more bulky articles forbidden in the field. It is said that as the ration allows a saving, owing to the fact that some of its articles are in excess, the soldier has abundant opportunity to buy extras. It should be remembered that there are many posts where purchase is impossible, or where these extras are a dozen times more expensive than the same articles in New York. At many posts the soldier can not at any cost get the extras he needs. Again, a company garden often supplies the extra vegetables; yet a garden is uncertain and can not be relied upon; indeed it often fails entirely. It need not be remarked that, as the Government undertakes to feed the soldier, he should not be compelled to raise his own food or any part of it. At many posts a considerable part of the soldier's pay goes for little articles which are officially considered non-essential luxuries, yet which are found to be part of the regular diet of the well-to-do laborer in civil life. The soldier has a natural craving for these articles, and in some sections of the country he can ill afford to buy them. It is well known that people in the tropics subsist on far different food than those within the polar circle; but this does not seem to have been so evident to those who framed the present ration. It is absurd to attempt to make use of the same diet in a Florida summer and a Montana winter. If anything is certain, it is that the ration should be flexible enough to give wholesome and seasonable food to each. * * * Too much attention to pure science will eventually cause the soldier's stomach to be looked upon as a mere machine for storing away energy to be used in work, and no attention will be paid to his appetite or enjoyment. Man is created with a healthy appetite, the satisfaction of which is a pleasure; and it is not fair to the soldier to ignore this fact. The natural zest he has for food can be recognized without making him a glutton. The present ration, by the way, has little in it that would tend to produce an epicure. Taking everything into consideration, I conclude that, as we must yet regulate the ration somewhat empirically, we should resolutely favor variety and excess rather than strict accuracy, even should we approach extravagance. * * * We know that the carbon and nitrogen supplied to the soldier are more than enough to keep him alive, and that they apparently suffice to keep him in health. We know even more surely that it is not the best ration for his varied circumstances. A beginning in a change for the better might be made by adding potatoes and a moderate quantity of fresh vegetables, and even fruit. These could be purchased as the fresh-meat ration is; and at posts without convenient markets they could be shipped fresh or canned. Fruits would certainly be a great boon at some of the hotter posts. * * * It is my impression that more cases of mild chronic constipation exist among soldiers than among the same number of equally healthy civilians. I refer to those cases not appearing on the sick report, the majority of whom do not seek professional advice, yet who suffer decided inconvenience. If this be a fact, it is no doubt due to the absence of fresh fruits and vegetables. * * * It is certain that a change to the side of liberality would make the service a little more attractive to the man who has any regard for his stomach, and make him less anxious to desert a service where his appetite is more consulted, the feeding not apparently done by machinery, and his food not accurately measured by his work—300 grains of nitrogen and 4,500 grains of carbon for eight hours of guard duty, whether at 20° below zero or 110° in the shade."

At *Fort Preble, Me.*, in March, Assistant Surgeon G. E. Bushnell reported that owing to the inexperience of the soldier in charge of the post bakery the bread supplied during the month had been of poor quality. In May the bread was reported as insufficiently baked; but an experienced baker having been assigned to the post during the latter part of the month, there was no further cause for complaint.

At *Fort Mackinac, Mich.*, in October, the bread baked at the post bakery was on two occasions reported as sour.

At *Fort Riley, Kans.*, in September, Surgeon D. Bache reported that for a few days the bread, owing to a temporary difficulty with the yeast, had been dark, heavy, and sour.

At *Fort Robinson, Nebr.*, in May, Assistant Surgeon A. W. Taylor remarked that for about one week the bread had been bad. In July he renewed his complaint, and the subject was referred to the post commander, who reported: "The bread is very good. As a general thing companies are instructed, when the bread is not fit to be eaten, on returning the same they would receive hard bread in lieu. Very little has been returned. One cause of poor bread is due to the flour, already reported upon. The reason the bread has been on two occasions bad is that sometimes at drill and dress parade the batch was ready for the oven, the order to leave but one baker at the bakehouse prevented the necessary force being present to put the same in the oven. This happened during the warm weather when the Inspector-General was here on one occasion. As a general thing the bread is exceptionally good."

At *Camp Pena Colorado, Tex.*, in June, the bread was reported as not being good, the hot weather having caused the yeast to spoil. In September, October, and November it was stated that the bread was only fair, and that the services of a good baker were much needed.

At *Denver, Colo.*, from April to October, inclusive, the bread was reported underbaked, a fault chargeable to the portable oven used at the post.

At *Fort Thomas, Ariz.*, in August, the bread was reported as not of good quality, owing to the inexperience of the baker.

At *David's Island, N. Y.*, in October, it was reported that the bread had not been as good as usual. Surgeon J. V. D. Middleton concluded, after investigation, that the flour was in fault. In December he added: "When the new bakery is finished and in running order it is hoped there will be an improvement in the bread. I do not consider that now issued to be of the best quality; whether it is caused by certain inferior brands of flour, as the baker claims, or from some failure on his part, I am unable at present to say. He has always been considered an excellent baker, and invariably furnished good bread until within the past two months."

At *Fort McKinney, Wyo.*, in April, Assistant Surgeon W. N. Suter remarked that the bread had been mostly badly made, due in his opinion to the "incompetency of the baker. I have had the flour carefully tested by a competent private cook, with excellent bread as the result. The bread issued to the troops is usually sour and always bitter in taste. This is probably the result of the use of too much yeast and the imperfect quality of that used." In his indorsement forwarding this report the post commander says: "The poor quality of the bread referred to is due to the flour, which is not of a uniform quality. I have recently made a thorough investigation of the process used at the mill from which this flour was obtained and am of the opinion that a small quantity of frosted wheat has been ground with the good wheat, which causes a sourness in certain sacks of the flour. The majority of the bread baked is of excellent quality, and it is very rare to hear of a complaint from any one but the post surgeon. The baker has been on duty in the bakery for three years here, and was formerly post baker at Fort Riley, Kans., and his competency has never been to my knowledge questioned before. The yeast made and used by him is used by nearly all the families at the post, and no complaint of its quality has been heard as yet from any of them." In May and June the post surgeon reported that the bread still continued of poor quality. In July he noted some improvement; "an intelligent and experienced man having been secured as assistant baker, it is thought that the bread can soon be brought up to the proper standard." In August he remarked that this standard had been reached. In October he stated that the rations had been good "except the bread for a few days, when a supply of Buffalo flour of last year's contract was issued to the baker. It is and always has been impossible to make good bread of this flour; even when mixed with the Sheridan flour, which is good, the result is uncertain."

At *Fort Grant, Ariz.*, in April, Assistant Surgeon W. H. Corbusier reported that "the coffee is rarely an infusion, as it should be, but an over-boiled decoction, and sometimes contains considerable charcoal, which, owing to carelessness, is produced during the process of parching the grains. The charcoal robs the beverage of its aroma and strength, leaving it almost odorless and tasteless."

At *Fort Meade, Dak.*, Surgeon C. T. Alexander reported that some of the cooks boil their coffee or leave it on the stove for one, two, and even three hours; some also subdivide and bake a joint for three, four, and five hours.

On salt pork as an article of diet in southern Texas.—It will be seen from what has been already stated that complaints of salt pork as a part of the ration continue to be made in the sanitary reports by post sur-

geons at stations in southern Texas. As the matter is important, the opinions of medical officers stationed in this locality, as expressed in their sanitary reports for several years back, have been collected, and with notes by other Army officers on the same topic from such official reports as are accessible, are herewith submitted :

BENTLEY, E. ; *Fort Brown, Tex. ; sanitary report, December*, 1865, *January, etc.*, 1866.—Lack of demand or sale prevents convertibility, to any advantage, into vegetables. Supply of vegetables made up by contributions by the men. However desirable fats may be, as part of the ration, pickled pork does not appear to be adapted to this climate.

FORWOOD, W. H. ; *Fort Richardson, Tex. ; special report on ration*, 1874.—All the men * * * prefer bacon to pork. * * * A general issue of bacon, to the exclusion of pork, might be made with economy to the Government and greater satisfaction to the troops. Review of chief points in favor of this change ; freight charges on pork higher, liability to damage and leakage greater, less wholesome, can not be issued on field duty, can not be disposed of to advantage as a saving. * * * Pork is the first article in the regular ration that may be suspected as a source of disease, etc. * * *

BROWN, H. E. ; *Fort Duncan, Tex.; sanitary report*, 1880.—An examination into the saving from bacon shows some curious figures. The three colored companies stationed here, with an aggregate strength of 141, saved but 357 pounds. One company made no sales; while the company of white troops, with an average strength of 58, saved 3,000 pounds ; a wide discrepancy, showing either a great difference in the needs and appetites of white and colored troops, or such a faulty administration as to render the subject worthy of investigation on a larger scale. Company C, Eighth Cavalry, number of rations of bacon drawn, 6,289½; savings 2,964¾; average number of men 58.

SMITH, J. R. ; *Department of Texas, M. D. O. ; special report, November*, 1880.—* * * A little more than half of the company fund, $15,141, accrues from the sale of pork or bacon. * * * Sixty-five companies sold more pork or bacon than anything else. * * * Company H, Eighth Cavalry (white), sold, during seventeen months, $660.02 worth of bacon or pork ; and Company F, Twenty-fourth Infantry (colored), in the same period, 96 cents worth. * * * Of pork or bacon the white troops sold twice as much as the black. * * * Three hundred and ten dollars worth of bacon or pork was bought by the companies; * * * $75 by the First Infantry, $157 by the Twenty-second Infantry. All of the First Infantry and a portion of the Twenty-second Infantry were stationed in the Department of Dakota. * * * Recommends a reduction of the amounts issued of pork and bacon. * * *

BAILY, J. C. ; *Fort Concho, Tex. ; sanitary report*, 1883.—The ration is not enough ; * * * the company funds have been heavily drawn upon. This is due to the low price of pork in the vicinity. So much of the salt-meat ration as is required for sale in order to give variety of food should be issued in bacon, which can be sold at 11 to 15 cents per pound.

WOLF, J. A. ; *Camp Rice, Tex. ; sanitary report, December*, 1885.—It should be stricken from the list ; * * * repugnant to the taste ; * * * not eaten. It is the custom to draw, but sell it again to the subsistence department. This process may continue until it is damaged or worthless for issue, when it is condemned and sold or burned.

GARDNER, W. H. ; *Fort Davis, Tex. ; sanitary report, December*, 1885.—It is improper and unwholesome. The little fat required in southern Texas should be in the most palatable and nutritious form. Bacon is more digestible, and much preferred by the men.

VOLLUM, E. P.; *Department of Texas, M. D. O.; sanitary report of Fort Stockton, December*, 1885.—The unsuitableness of pickled pork in a hot climate is the written opinion of all the post surgeons in Department of Texas.

WRIGHT, J. P.; *San Antonio, Tex.; sanitary report, December*, 1885.—Objectionable. The food uniformly selected by individuals under given conditions as to temperature * * * is in conformity with the requirements of health ; and hence the fact that salt pork in this vicinity is not much more in demand than blubber or train-oil might be, as food, is the strongest argument against compelling soldiers to subsist upon it. Bacon, as a form of carbonaceous food, is less objectionable.

TOWN, F. L.; *Fort Clark, Tex.; sanitary report, December*, 1885.—I would state that it is my experience, and, so far as I know, the experience of every one who has any practical knowledge of feeding men, that troops will not eat pickled pork except when driven to swallow it by pressure of hunger. The pickled pork is sold back to the

Government—no one will buy it outside—for cash, and the proceeds go towards supplying fresh vegetables, necessary to the health of the men. Pickled pork sells for less than bacon, and thus the men are deprived of needed vegetables which they would otherwise get. Pickled pork as a component of the ration, by decreasing its value, simply diminishes the quantity of food men receive, when an increase of the ration should rather be advocated.

KANE, J. J.; *Fort Ringgold, Tex.; sanitary report, December*, 1885.—Does not consider it desirable food, and it is not relished by the men.

BARTHOLF, J. H.; *Fort McIntosh, Tex.; sanitary report, December*, 1885.—Pork not a proper article of food in this climate at least; civilians never eat it, and soldiers rarely and in very small quantities.

BUFFINGTON, A. L.; *Camp Pena Colorado, Tex.; sanitary report, December*, 1885.—Salt meat would be eaten and relished more frequently, if bacon were furnished instead of pickled pork. The latter is only used about three meals in two weeks, and as an adjunct to baked beans. About 50 per cent. of it wastes in cooking, and it can not be disposed of outside of the subsistence department.

HARMER, J. R.; *Camp Del Rio, Tex.; sanitary report, December*, 1885.—Does not believe it is acceptable as an article of diet in this climate. When taken from the pickle it soon becomes rancid. As an article of savings it is valueless; civilians will not purchase it at any price.

FINLEY, J. A.; *Fort Concho, Tex.; sanitary report, December*, 1885.—Does not think that giving it to the troops three days in ten would be prejudicial to health. The decided objections to it by both officers and enlisted men would show that it would be better to issue bacon.

CARTER, W. F.; *Fort Stockton, Tex.; sanitary report, December*, 1885.—Unqualifiedly condemned in hot climates. That the most important part of the ration should be at once disgusting to the taste and sight, and unsalable except to the commissary department, is sufficient evidence of its unsuitableness. Little or no company fund can be made. That the men have to give of their private means is evidence of the deficiency of the ration.

CARTER, W. F.; *Fort Stockton, Tex.; sanitary report, November*, 1885.—Health and comfort of the Army would be improved by abolishing the use of mess pork in southern climates. It has no sale, is decidedly gross, too fat, great loss in process of cooking. Men do not like it; will not eat it. Bacon should be substituted.

VOLLUM, E. P.; *Fort Stockton, Tex.; sanitary report, November*, 1885.—Emphatically concurs in the opinion that the abolishment of the issue of mess pork in this department would be of benefit.

VOLLUM, E. P.; *Fort Clark, Tex.; sanitary report, January*, 1886.—I have long held the opinion that forcing men to eat it in hot climates, when the stomach rebels against it, is a prolific source of dissatisfaction and desertion.

HARRIS, H. S. T.; *Camp Eagle Pass, Tex.; sanitary report, February*, 1887.—Bacon issued is judiciously bartered for fresh meat and vegetables; but salt pork commands no price, and is neither nutritious nor palatable, being composed almost entirely of fat, very little of which is needed in this climate.

HARRIS, H. S. T.; *Fort Ringgold, Tex.; sanitary report, April*, 1887.—Is revolting at all seasons of the year in Texas. Its cheapness seems to be the only argument for its issue.

VOLLUM, E. P.; *Fort Ringgold, Tex.; sanitary report, May*, 1887.—Men do not eat the fat salt pork, but buy vegetables with their own money. This amounts to furnishing a kind of food which is unfit for the men to eat, and forcing them to buy a kind which they crave and need with their own money, or go without it.

HARRIS, H. S. T.: *Fort Ringgold, Tex.; sanitary report, June*, 1887.—A mess of it is commonly served alone; great slabs of it are left uneaten. These are cut up into a pie, or hash, or disguised in beans or cabbage, and finally gotten rid of. It is a very economical article of diet; a little of it goes a good way.

EGAN, P. R.; *Camp Eagle Pass, Tex.; sanitary report, July and September*, 1887.—The ration is deficient in vegetables, and the pork is only fit to make grease in this hot climate.

CARTER, W. F.; *Fort Ringgold, Tex.; sanitary report, June and November*, 1887.—The issue of salt meat comprised three-tenths of the total meat ration; three-twentieths of this is issued in salt pork and three-twentieths in bacon. Issue should be discontinued. The average temperature of this latitude approaches the highest in the United States. * * * Irrational to suppose that the same diet is suitable for hot and cold climates.

CLENDENIN, P.; *Camp Pena Colorado, Tex.; sanitary report, September*, 1887.—The pork in the commissary has never been used by this troop, and is unfit for issue in this climate. Not relished even in winter. Frequently spoils in transportation.

HARRIS, H. S. T.; *Camp Pena Colorado, Tex.; sanitary report, December*, 1887.—Two-tenths of the meat ration is issued in salt pork. Even this small proportion is too great; the larger part of it is returned to the commissary. * * * Bacon is quite palatable, and has a higher money value.

CARTER, W. F.; *Fort Ringgold, Tex.; sanitary report, August*, 1888.—Issued to the companies, by them sold back to the commissary indefinitely, until it deteriorates or becomes worthless. * * * Question whether, in this climate, it could be eaten without prejudicial effect on the health. * * * To ingest what the stomach does not need * * * throws an amount of work upon the excretory organs for its elimination and results in their overwork.

AUGUR, C. C.: *Department of Texas; yearly report*, 1883.—Company commanders and enlisted men generally complain of the action of the subsistence department in issuing pork in lieu of bacon, limiting the issue of the latter to troops in the field. Enlisted men prefer bacon as food, and claim that it goes farther. The troops in this department in garrison are issued salt meat three days in ten. It is recommended that at least one-half of this issue be bacon.

TERRY, A. H.; *Department of Dakota; annual report*, 1883.—In such quantities as it is now proposed that the troops shall eat it, is not fit food for the human stomach.

CROOK, GEORGE; ARNOLD, A. K.; *Department of Arizona, I. G. O.; annual report*, 1884.—Recommends changes in component parts of the ration. I believe ours is the only army in the world which endeavors to give a soldier the same food in Arizona as he would receive in Alaska.

STANLEY, D. S.; *Department of Texas; yearly report*, 1884.—It is so gross a kind of food that it is in very limited use in this hot climate. * * * Troops prefer bacon to pork. * * * Can not agree with the Commissary-General of Subsistence.

SCHOFIELD, W. M.; *Department of Missouri; yearly report*, 1884.—In the matter of clothing and subsistence of the troops there is much room for improvement. * * * One part of the ration—mess pork—is entirely unsatisfactory to a large portion of the troops.

STANLEY, D. S.; *Department of Texas; yearly report*, 1885.—* * * Nearly one-half of the pork issued is sold back by the companies, thus showing the dislike for it as a diet in this climate, and that it is not a valuable part of the ration, but is used as a medium of exchange. * * *

SCHOFIELD, J. M.; *Fort Stockton, Tex.; sanitary report, November*, 1885.—Recommends that the issue of pork in the Department of Texas be discontinued.

BAIRD, A.; *Inspector-General's Office; annual report*, 1885.—The issue of salt pork as a part of the ration is a matter of such universal and persistent complaint that I deem it my duty to call attention to it. Even if bacon is a little more costly to the Government, the demand for it is so general that I think it might be listened to.

STANLEY, D. S.; *Fort Clark, Tex.; sanitary report, January*, 1886.—The entire abolishment of pork as part of the ration, in a warm climate, has been advocated by me for several years. * * * The small sum saved by the subsistence department by issuing pork is far overbalanced by the discontent and consequent desertions caused by bad diet and poor rations.

BAIRD, A.; *Inspector-General's Office; annual report*, 1887.—Objections to the salt-pork ration continue, and I can think of no way of quieting them, unless the Secretary of War would decide that henceforth salt pork should be excluded from the ration. * * *

WILCOX, J. A.; *Fort Ringgold, Tex.; sanitary report, April and June*, 1887.—Entire concurrence in condemning the issue of fat salt pork. * * * Repulsive to taste and digestion. * * * Forcing it on the men as a part of their diet is like taking a horse to water without being able to make him drink. If the law precludes any change in the ration, it might be well if it were modified regarding issues in southern climates.

FECHÉT, E. G.; *Camp Pena Colorado, Tex.; sanitary report, October*, 1887.—No sale for it. * * * The major portion of savings being derived from the salt meat * * * the low price received for it renders it necessary for the men to subscribe $1 per month in order to obtain vegetables.

HEYL, E. M.; *Fort Ringgold, Tex.; sanitary report, November*, 1887.—The question of "mess pork in Texas" has been discussed without arriving at any satisfactory conclusion. * * * Not diet of natives. * * * Quotes Secretary of War, 1818, relative to diet for Southern people. Quotes Commissary-General, 1881: "If any article of the ration * * * not desired * * * substitute other articles more desirable and more important as food."

STANLEY, D. S.; *Department of Texas; annual report*, 1887.—* * * Nor is pork a commodity that can be bartered for vegetables in this State, as it is not used for food, nor quoted in the market. * * *

MORTON, C.; *Camp Eagle Pass, Tex.; sanitary report, August*, 1888.—Pork has been furnished when the command was so small and weather so hot that part of a barrel would spoil before it could be consumed. Men here do not eat it. * * * It is almost a dead loss as a part of the ration.

MACFEELY, R.; *Commissary-General of Subsistence; sanitary report of Fort Stockton, Tex., November*, 1885.—Salt pork is regarded as one of the most important and valuable components of the ration. * * * In all attempts to force issue of bacon in lieu of pork it is plain that bacon is wanted for sale, and not to eat, and therefore preferred to pork as being more salable and bringing a higher price.

MACFEELY, R.; *Commissary-General of Subsistence; sanitary report of Fort Ringgold, Tex., April*, 1887.— * * * There are many times when the soldier requires all the pork and bacon the law allows, and if at all times he does not want it all, he can, by sales of the savings, be supplied with other articles of food best suited to the climate. At Fort Ringgold, for four months ending April 30, only one-tenth of meat ration was issued in pickled pork, which shows the groundlessness of these complaints.

MACFEELY, R.; *Commissary-General of Subsistence; annual report*, 1888.— * * * Suggestions received, some to the effect that barreled pork should be excluded and bacon substituted. * * * I do not think any change required or admissible.

The views of the post surgeons coincide with those of post commanders and department officers. Salt pork as an article of diet in the climate of southern Texas is condemned as repugnant to the taste and sight; the men do not eat it, and there being no market for it as an article of barter for vegetables or other articles of food, its issue should be abolished. On the other hand, the Commissary-General of Subsistence holds that it is one of the most important and valuable components of the ration; that there are many times when the soldier requires all of it that the law allows, and that in all attempts to force the issue of bacon in lieu of pork it is plain that bacon is wanted for sale and not to eat. The Commissary-General is no doubt right in his general view of the subject; and in his last-cited statement, that bacon is urged in place of pork because it is wanted for sale, he evidently recognizes the exceptional circumstances prevailing in southern Texas, which, in the opinion of medical and other officers, call for that particular change in the issues, although he does not consider that the change is required or admissible.

That the established ration is sufficient in quantity may be allowed to pass as the general opinion of our medical officers; but no one claims that, unsupported by purchases or exchanges, it furnishes the necessary variety of food required by the soldier. The Commissary-General, in his report for 1888, says: "The proceeds of sales of the savings of parts of the ration constitute the company fund, and this fund is regarded as a most excellent and readily applied means of increasing to any necessary extent the variety of the soldiers' food;" and in the paper on the best ration for the soldier, by Surgeon J. R. Smith, appended to the report cited, that officer concludes by saying "that sale, barter, and interchange of foods, in practice, will always give the soldier a suitable variety." In both of these statements it is admitted that the soldier must rely on the sale or exchange of some part of his ration to provide a suitable variety of food. If this sale could always be accomplished, and the needful additions to the ration be purchased by the proceeds, there would be no ground of complaint; but some of the companies in Texas do complain, and the ground of their complaint is their inability to effect the sale of that part of the ration which they do not eat at a price that will enable them to properly supplement the subsistence issues. As many of the posts have no gardens,

and vegetables are high priced, the small amount of the company fund does not go far. The chief cause of the difficulty in raising a company fund for the purchase of vegetables is claimed to be the action of the Subsistence Department enforcing the issue of salt pork instead of bacon. This, it is said, has taken away the principal source of income to the company funds, and no savings can be made. Hence the expectations of Surgeon Smith and the Commissary-General can not possibly be realized at these particular posts, and the men have contributed as much as $2 a month per man to purchase articles of food, particularly potatoes and onions.*

An examination of the sanitary reports of posts in this part of Texas from 1868 to 1883 gives full support to the statement that bacon was the portion of the ration from which the company savings were chiefly made. Information as to this saving in 1879 may be obtained from Surgeon J. R. Smith's published report on the ration (M. D. O., Department of Texas, 1880). From tables showing the amounts accruing to company funds from sales the following instance is selected: In the Eighth Cavalry the sales of pork or bacon amounted to $4,386.65, and the purchases of these articles from company funds to $34.25, making the total saving on these items $4,352.40. The sales of sugar and other parts of the ration aggregated $3,865.47, and the purchases $1,382.85, making the savings on all the other items of the ration, excepting pork and bacon, $2,482.62. Although the saving is returned under the heading pork or bacon, it was probably made wholly on bacon, for pork as a part of the ration on which savings were made is not mentioned on any sanitary report of any post at which the Eighth Cavalry was stationed in 1879. An extract from the sanitary report of Fort Duncan, Tex., given above, shows that 58 men of Company C, Eighth Cavalry, saved nearly 3,000 pounds of bacon out of a total of 6,289 rations of bacon drawn. With this large saving it would seem that the ration could be well supplemented by articles purchased from company funds, but it must not be overlooked that salt fat meat did not command a high price in Texas,† and that the articles purchased out of the company funds, such as potatoes and onions, were very dear.‡

A review of the information relative to the ration in Texas, contained in the sanitary reports from 1868 to date, may be summed up as follows: In the earliest reports it is found that vegetables were scarce and correspondingly dear; many complaints about the lack of vegetables were made, and requests that potatoes and onions be added to the ration. A scorbutic taint§ pervaded the troops in the department, and at the

*In his report for 1887, Inspector-General Baird says: "It is reported officially that the troops in the Department of Texas during the last fiscal year contributed out of their own pay $12,275.22 to purchase these necessary articles of diet for their several messes."

† In the extract from Surgeon J. C. Baily's sanitary report of Fort Concho, Tex., 1883, it is stated that bacon brings from 11 to 15 cents a pound. In other sanitary reports from the Department of Texas it is stated that there is no market for salt pork, and it can not be sold except to the subsistence department. The price which these articles would obtain in a northern department may be shown by Surgeon G. Perin's published report on the ration [M. D. O., Department of Dakota, 1881], in which Col. J. Gibson, U. S. Army, says: "It is a well-known fact that at most Western posts a pound of bacon or pork is worth from three to five times as much as a pound of fresh meat or game. * * * At posts in the Northwest, especially in the vicinity of mining regions, it sells as high as 20 to 25 cents per pound."

‡ In Surgeon Smith's report, heretofore quoted, it is stated that Company A, First Infantry, stationed at Fort Randall, Dak., purchased more than 600 bushels of potatoes for $243.90, or three times as much as Company H, Eighth Cavalry, stationed at Fort Ringgold, Tex., for more money.

§ See circular No. 8, A. G. O., 1875, page xxxviii.

suggestion of medical officers at some of the posts, water-cresses were planted in the creeks, gathered, and eaten. An improvement, attributed to the settlement of the country and the better facilities of transportation, was observed in the course of a few years, after which the company savings on bacon, coffee, and sugar* permitted an ample supply of vegetables to be procured. Protests against salt pork have been of frequent occurrence since 1883. Prior to that time pork does not seem to have been generally issued; it is not mentioned on any of the diet tables furnished with the special reports on the ration [1874]. Since that time reports condemning its use have been received from every post in southern Texas. The extracts submitted above show the unanimity of opinion on the subject among the medical officers, and as at seven of the twelve army posts comprised in the department the soldiers contributed out of their private means to purchase vegetables, the views of these officers appear to be fully sustained.

Certain measures which might be applied to remedy a deficiency in the ration have been proposed. Surgeon E. P. Vollum, medical director of the Department of Texas, and other medical officers serving in that section of the country, have suggested the issue of bacon instead of pork. Surgeon J. R. Smith, medical director, Department of Texas, 1880, proposed a reduction of the amount of pork, bacon, sugar, and coffee issued, and the substitution of other articles of diet. Surgeon T. A. McParlin (in a special report on the ration, February, 1875) brought forward the idea of supplementing the company funds of troops stationed in unfavorable districts by transfers from the excess of others more favorably situated. The Commissary-General of Subsistence and others† conceived that the end would be accomplished by restricting the expenditures from funds made from any savings on the ration to the purchase only of articles of food.‡

For my own part I incline to the opinion that the difficulty would be best met at these southern posts by the issue of bacon instead of salt pork.

WATER-SUPPLY.

The medical officers of the Army have always shown a commendable interest in the important subject of water-supply; and as an ultimate result of this the sanitary reports from the various stations usually return under this heading a brief but satisfactory statement as to quality and quantity. The small percentage of reports which enter into the subject at greater length are those which announce the completion of improvements or the verification of quality by analysis together with

* Fifty companies serving in Texas an average time of fourteen months made savings amounting to $23,018.74. Of this amount the sum realized from bacon was $11,163.41; sugar, $1,563.29; flour, $401.25; coffee, $6,979.14.—Report of Surgeon J. R. Smith, U. S. A.

† In a report on the Army ration by Surgeon T. A. McParlin, 1875, it is recommended that "any savings accruing from flour, bacon, sugar, and coffee shall be expended for articles of equivalent nutritive value as far as practicable; and no savings from the food portion of the ration shall be expendable for anything but food. Any expenditure out of the food savings upon articles of mess or table furniture, utensils, or for anything but food is highly objectionable in itself and leads to various abuses."

‡ General Order No. 7, Adjutant General's Office, 1889, amended paragraph 522, Army Regulations, to read as follows: "The savings arising from an economical use of the ration of the company will constitute the company fund, which will be kept in the hands of the commanding officer of the company and disbursed by him, under the direction of the post commander, exclusively for the purchase of food, or articles to produce food for the improvement of the soldier's fare."

those, now few in number, which indicate dissatisfaction with the supply and suggest measures for its improvement.

The supply of Jefferson Barracks, Mo., from the St. Louis mains instead of from the river immediately below the inflow of the sewage of that city, is undoubtedly a great sanitary achievement. A notable change in the sick-report of the barracks dates from the introduction of this water-supply. To secure a suitable supply at David's Island, N. Y., the recommendation has been made to connect the water service at the post with that of the town of New Rochelle. Usually when a connection has been made with the mains of a city the question as to the water-supply of a post is considered definitely settled. Exceptionally, however, this is not the case, as at Vancouver Barracks, where the growing town, which is on lower ground, draws off the limited supply and leaves the post with an insufficient allowance. Wells, giving a palatable and fairly soft water, have been dug at Fort Adams, R. I. An analysis of the new water-supply at Fort Riley, Kans., shows it to be free from organic matter; but it is a hard water, containing about 24 grains of bicarbonates and sulphates per gallon, the former predominating. About 66 per cent. of this can be removed by boiling, so that the permanent hardness does not exceeed 8 grains per gallon. At Fort Supply, Ind. T., an excellent water has been introduced; it is brought from Water-Cress Cañon, a distance of about 2 miles, in a 4-inch main. A filter has been constructed at Fort Meade, Dak., to clear and purify the water of the creek for the use of the post; but although this water has been approved by chemical analysis, it can not be considered as other than dangerous, for it receives the sewage of a considerable settlement about a mile and a half above the post. A sedimenting reservoir has been constructed at Fort Ringgold, Tex. A similar reservoir has been recommended to remove the turbidity of the water-supply at Fort Bidwell, Cal. The reservoirs at Fort Douglas are said to be injuriously affected with fresh water algæ. These growths do not render a water unwholesome unless by their decay in large numbers they give an unpleasant and peculiar odor and taste to the water, in which case diarrhœal troubles are prone to occur; but diarrhœa thus originating has not been reported from this post. Condensed water has been used at Fort Davis, Tex.; and at Fort Clark, Tex, the post surgeon recommended the use of condensed water to avoid danger from the spring-supply, which had become greatly contaminated by an inflow from foul surfaces. Much difficulty was found in procuring a water-supply at Fort Sisseton,* Dak.; most of it had to be hauled from neighboring lakes, 3 to 9 miles distant. At Fort Yates, Dak., and Fort Reno, Ind. T., much of the water-supply has to be brought by wagons.

No epidemic has been traced during the year to a contaminated supply of water. At Fort Laramie, Wyo., an outbreak of typhoid fever was at one time considered due to the water used, but subsequent investigation failed to support this view of its origin, and at Assiniboine, Mont., Assistant Surgeon La Garde was inclined to attribute 8 cases of fever in a total of 27 cases of all diseases as due to malaria in the water supply.

Jefferson Barracks, Mo., Surgeon E. McClellan: The introduction of the water from the St. Louis water-main has certainly been the crowning success, for from the delivery of that water-supply dates the great change in the sick report of the depot.

David's Island, N. Y., Surgeon J. V. D. Middleton: "The water-supply of this post is deficient. The cisterns at the officers' quarters are not large enough to supply the demand made upon them, and they are filled very frequently from the pond, which

*This post has recently been discontinued.

is altogether surface-water, containing considerable organic matter. The well-water is wholesome, but not palatable, especially after it has been pumped for some time, containing then an excess of salines. The supply is unreliable, and not sufficient at any time for all the purposes required. The supply system of New Rochelle has already reached a point opposite the island, and I recommend that steps be taken to connect with that service as early as practicable. The water of New Rochelle is pure and wholesome, and the supply unlimited."

Vancouver Barracks, Wash., Surgeon W. E. Waters: "The water-supply of the post is becoming a subject for careful consideration. The water, as heretofore reported, is furnished by the Vancouver Water Company. The supply for nearly the whole post is obtained from a 6-inch main, which also supplies the town of Vancouver. The latter being on much lower ground, when the water in the reservoir is low it is so drained by the consumption there as to cut off almost entirely at times the supply for the post. This occurred during the drought of last summer, and is more or less so every summer. During the month of January the supply from the reservoir was at times almost entirely consumed in the town, cutting off the officers' quarters completely for several days. New houses connected with the water-supply are built every year in the town without any increasing yield of water to meet the new demand, and as a consequence the garrison will suffer more and more each succeeding year. The experience of this winter and of last summer demonstrates the advisability of a new system which will meet the wants of the post. Under the present system the post is at the mercy of the consumers in the town." [In July an artesian well having been bored at this post, no further complaint of scarcity of water was made. Analysis of this water shows that it is exceptionally free from organic impurity.]

Fort Adams, R. I., Surgeon S. M. Horton: The water from the tanks on the redoubts is suspicious from the large quantity of vegetable matter that is found in it within a week from the time that these tanks are thoroughly cleaned out. He is informed that the wells from which this water is pumped are located where there used to be a swamp; but there is no swamp there now, for the reason that the wells have drained it. He urges that the efforts of the post quartermaster to obtain purer water and better drainage for this post be aided by every means. A new well was bored in September, but the supply not being adequate, another well was dug near the first; the supply being still unsatisfactory, a third well was bored and the three wells were connected with each other by iron pipes. These wells are on the highest ground of the post and have a capacity of 4,300 gallons per day: the water is fresh, clear, and palatable, and fairly soft.

With a view to decide which is the purest water for the supply of the garrison, Assistant Surgeon J. L. Powell, *Fort Supply, Ind. T.*, collected three samples of water for analysis. The chemist reported that the water from the dug well on the banks of Wolf Creek is decidedly undesirable, for, although there is no evidence of contamination of animal origin, it is certainly charged with vegetable matter which sooner or later may give trouble; at present there is no danger to be apprehended from it. The water from Wolf Creek is free from organic matter, and much to be preferred to the well; it shares with the well, however, the disadvantage of holding in solution a large amount of solids. The Water-Cress Cañon water, although organically as pure as Wolf Creek, is much better as regards the presence of mineral matter, and is to be preferred as a source of water-supply. In December the post surgeon states, "The water from Water-Cress Cañon was introduced into the garrison, coming a distance of 11,243 feet through a 4-inch pipe. The water is collected in a receiving reservoir with a capacity of about 60,000 gallons, and is thence pumped into a distributing reservoir on an adjacent hill, whence it is conducted by smaller pipes to the quarters and barracks in the garrison. It is good in quality and ample in quantity."

Fort Meade, Dak., Surgeon C. T. Alexander: As the supply is from the creek that passes through the town of Sturgis, receiving its filth and the washings of mines at Galena, the quality is bad. Should at any time a case of typhoid fever occur at Sturgis, the Fort Meade command will probably suffer terribly. This defect demands the urgent attention of those in authority. In May four samples of water were sent to the Surgeon-General's Office and analyzed by Acting Assistant Surgeon W. M. Mew. Specimens taken from a spring in the bed of Bear Butte Creek, and from another spring further up on the same creek, which is used for drinking purposes at the post, were found to be of doubtful purity. In a sample taken from a spring still higher up the creek, on the north bank, and near the foot of the bluff, and in that taken from a hydrant at the post, which is water pumped direct from the creek into the reservoir and used for cooking and drinking purposes, nothing was found to suggest contamination. To clear and purify the water it was recommended that a filter be built at the creek from which water could be pumped into the reservoir. This recommendation was approved, and the filter was furnished in December.

Fort Ringgold, Tex., Assistant Surgeon W. F. Carter: A plan has been adopted at this post to secure a supply of water free from silt and suspended organic substances and dissolved organic and mineral matter, by providing a double reservoir, one compartment of which is intended as a muddy-water reservoir, where the water may be allowed to remain in a state of complete quiescence until it has become clear enough to be transferred to a lower reservoir, from which clear water may be pumped into the distributing tanks. Means have been provided for quickly and easily removing the silt on subsidence and for withdrawing water from the receiving reservoir without disturbing the volume of water and so causing it to become muddy.

Fort Bidwell, Cal., Assistant Surgeon H. I. Raymond: In the spring of the year the mountain freshets cause the water in the reservoir to become mixed with a large amount of inorganic substances and organic débris, which render an otherwise clear and wholesome drinking water turbid and probably harmful. He proposes that the water be first received into a basin adjoining the main current, where it could settle before flowing into the reservoir.

Fort Douglas, Utah, Assistant Surgeon G. L. Edie: The water-supply of the post is suspicious if not dangerous. Under the contaminating influences of cultivated land, stable and farm-house drains, etc., the little stream from which the supply is obtained furnishes a water highly impregnated with decaying vegetable matter. The water is stored in two reservoirs—simple excavations in the ground; each of these has a quantity of vegetable growth. It matters not how often these ponds are cleaned and freed of this growth, in a very short time the bottoms are covered with a slimy, viscid vegetable matter. He recommends that either proper reservoirs be constructed, with walls of masonry and concrete, or that all water used for drinking and cooking purposes be distilled.

Fort Davis, Tex., Assistant Surgeon J. V. Lauderdale: The water-supply has been so impregnated with vegetable matter that water condensed from steam direct from the boiler and filtered has been supplied to the garrison for drinking purposes.

Fort Clark, Tex., Surgeon B. F. Pope: "The spring from which the water-supply of this post is obtained has been several times overflown by rushes of foul water during heavy rains. The spring proper soon cleared, but the margins of the pool were saturated with liquid filth that has slowly filtered into our water supply with every subsequent shower. If a periodical ingestion of animal and human fecal matter will produce typhoid fever, I can see no reason why this command should escape under existing conditions during any year of frequent and heavy rains such as we are now passing through. In my reports for October and December, 1887, I called attention to the risks that this command was subject to through a possible pollution of its water-supply, and again urged that means be taken to prevent such an occurrence if possible." To meet the present emergency he recommends that the troops be supplied with condensed water for drinking purposes.

Fort Sisseton, Dak., Assistant Surgeon J. L. Phillips: "The command is at present using rain-water, left over in the cisterns from last summer, for drinking and partly cooking; all other water used in the garrison is obtained from melting ice, which is hauled from the lake 4 miles northeast of the post. The water in the cisterns will hardly last another month, and unless the rain-fall for the three spring months is several times greater than it has been for the past five years, the command will be obliged to use the water from melted ice for all purposes, which water is absolutely unfit for drinking, as five enlisted men at present cutting ice on Four-Mile Lake, and using the water from the lake for drinking, are suffering from diarrhœa; the boiling of this water changes it but little if at all. The water to be obtained from Clear Lake is, owing to the rapid fall of this lake during the past year, but little better as to quality, and owing to the condition of the roads, can not be hauled until late in the spring as the lake is some 10 miles away." In forwarding this report Surgeon J. R. Smith, medical director, says: "This report fails to indicate the impurities supposed to render the ice-water not potable. Such lake-water would probably owe its noxious qualities, if such are found, either to vegetable organic matter or alkaline salts. In either case freezing would tend to diminish the amount of the impurities. If the water contains matter in suspension, it should be allowed to stand until a sediment is deposited, and should be filtered through sand or charcoal if obtainable. If the water is saline from the presence of the sodium, calcium, or magnesium chlorides or sulphates, practically it can not be purified. Then sufficient cisterns must be built; when, if the rain-fall is insufficient, wells must be dug, and if they furnish no water or their water is too alkaline for use, the post must be abandoned. I do not take so gloomy a view of the matter, however, as the post surgeon, for the following reasons: I find that, October 31, 1886, Assistant Surgeon Phillips reports 'the potable water-supply which is obtained from Clear Lake is abundant and so far satisfactory.' December 31 he reports: 'But five cases have been taken sick during the past two months; the nature of their sickness is liable to occur in any section. The water-supply at present is obtained from ice hauled from

Three-Mile Lake and melted.' January, he reports: 'The water for all purposes is supplied by melting ice,' and the sanitary condition good. As the report of the cases taken sick last month shows no cases of diarrhœa, it is possible that the cases of the men cutting ice, reported in this sanitary report, may have been due to other causes than bad water. They certainly were light cases." Rains during April partly replenished the cisterns, and by a reduction of the garrison at the post it was hoped that the water-supply would be sufficient. In September the post surgeon reported: "The water question has again become an important one to us: many of the cisterns are empty or nearly so, while others, owing to their faulty construction, are so contaminated with decayed matter, both vegetable and animal, that the water is absolutely unfit for drinking and cooking purposes, and really unfit for any purpose, though it has to be used for washing. Water is being and has been hauled for the past month from Three-Mile Lake for laundry and bathing purposes. In this connection I will say that if it be the intention of the Government to maintain this post much longer, the water-supply will have to be improved. The cisterns here should all be replaced by new ones. As wells have been tried at this post, the only measure that could be pursued was to clean the cisterns. The post will probably be abandoned."

Fort Yates, Dak., Acting Assistant Surgeon W. Shippen: Quality of water good; supply entirely insufficient. The method of supplying water by a water-wagon during the winter is a great hardship on the men and an unwarrantable inconvenience. Suitable hydrants, well protected, in larger number, and supplied with cut-off rods, would remedy the evil at a comparatively small expense, taking into consideration the wear and tear of the men, animals, and material.

At *Fort Reno, Ind. T.*, in his sanitary report for March, Assistant Surgeon J. Van R. Hoff states: "The water-supply of this station has long been the subject of solicitude, and numerous recommendations looking to its improvement have been offered." Samples of the water have been sent to the Surgeon-General's Office for analysis; the chemist says: "The samples were marked 1, 2, 3, 4, with nothing on the bottles nor in the letter of transmittal which gives information as to their source save in the case of No. 4, which is stated to be from melted ice. A study of the results of the analysis points to the probability that No. 1 is free from contamination of animal origin, and that it is either a river-water washing a territory largely impregnated with saline matter, or from a well sunk in a soil so impregnated. The absence of oxidized nitrogenous matter adds to the probability that the water is not polluted by animal matter. The large amount of solids makes it an undesirable water for potable purposes. No. 2, though containing much less free albuminoid ammonia than No. 1, contains a considerable amount of nitrates which may be the oxidation products of animal matter pre-existing as free and albuminoid ammonia which has undergone rapid oxidation. The large amount of chlorine would also favor such an hypothesis. On the other hand, it is possible to account for the presence of the nitrates on the supposition that they represent oxidized organic matter of vegetable origin which has been undergoing oxidation in an uncleaned well for months, and that the chlorine is normal to the soil of that locality. That two hypotheses widely different in the degree of their importance from a sanitary point of view, yet almost equally probable, can be built upon the same data is a good illustration of the need for exact information as to the source of the supply, and the topographical and geological characteristics of the adjacent soil. No. 3, which contains neither free nor albuminoid ammonia, nor nitrites, but does contain nitrates, is probably free from contamination of animal origin, a view based in great part on the small amount of chlorine present. It is, in my judgment, a very good water, and may be safely used, as may the melted ice, No. 4. Assistant Surgeon Hoff states that the samples were taken from the following sources: No. 1, from a hydrant on the parade which is connected with the post water-works—the water-works receive their supply from the Canadian River (North Fork), the intake being about a mile north of the post. The water is pumped thence to two large settling tanks, and from these distributed to the garrison. It always contains considerable sediment, and I have repeatedly recommended that filters be used by the troops. No. 2, from well at west side of parade. Several wells were in use at this station at one time, but upon recommendation of various medical officers that all wells be closed as dangerous, all except this one have gradually gone out of use as sources of water-supply, and some of them have been converted into cesspools. I have repeatedly urged the closing of these wells on the ground that, aside from soil pollution and percolation, the probability is largely in favor of the supposition that there is a more or less direct communication between it and the abandoned wells used as cesspools. The well is walled with rock and protected from the weather by a well-house: it has not been cleaned since I joined this station, about a year since. No. 3, spring water from Caddo Springs, about 4 miles distant from the post. This water is brought to the officers daily in kegs by wagon: it flows from a sandstone rock, and the spring is protected by a stone house. The flow is ample, and

it has been suggested that it be utilized for the post by piping and pumping, the spring being somewhat below the level of Fort Reno. No. 4, melted ice from the Canadian River (North Fork), cut at a point just below the confluence of a creek upon which there are pig-sties, etc. In conclusion he recommends that the drinking water for the command be furnished from Caddo Springs by means of a water-wagon. It is of vast importance to the health of this command that pure water be furnished it. Caddo Springs is at present the only known source from which such water can be drawn, and this spring is not on the military reservation. It is possible that water may be obtained by means of drive-wells at a point sufficiently far from the post to insure it against contamination, or, better still, artesian water is not beyond the bounds of probability.

At *Fort Laramie, Wyo.*, Assistant Surgeon L. Brechemin remarked relative to the epidemic of typhoid fever which occurred at this post in the fall of 1887: "I have never been able to determine positively the origin of this epidemic. Samples of the well-water in use by the garrison were sent to the Surgeon-General's Office. The results of the analysis, while casting some suspicion on the water, failed to show any great amount of contamination. These samples were taken, however, at a time when percolation into the well from the surrounding ground was not active." Typhoid fever reappeared at the post in April. An analysis of the well and river water in May found no evidence of impurity. The post surgeon in his May report remarked: "It has been noticed repeatedly that the water from the well if left standing over night, or upon first being drawn in the morning, is offensive to both taste and smell. I believe this to be due to an organic impurity or to result from the fermentation of a slimy deposit which I have observed in shallow vessels. This condition varies from time to time, but is always worse in the summer months, and particularly when the river is low. On examination of the analysis made in May, I believe that the increase of albuminoid ammonia in the sample of well-water taken on the second day after the storm is due not to the washing out of impurity by the storm, but to percolation, and that the impurity carried in by this percolation was at the maximum at the time of making this collection. For the same reason the river-water shows a larger amount of albuminoid ammonia, the storm having affected it also, and more rapidly, by the greater amount of drainage into it. Particular attention has been given to the condition of the tank; I have personally, in connection with the commanding officer, inspected this work, and do not believe that any impurity can be charged to defects in the construction or operation of the tank itself. At times the water on first being drawn from the hydrant shows a large amount of iron rust from the iron pipes through which it runs."

Acting Assistant Surgeon W. M. Mew, the chemist of the Surgeon-General's Office, who made the analysis above mentioned, requested that further samples be supplied him, as the water taken from the well on the second day after the storm showed such a comparatively large increase in the amount of albuminoid ammonia over that taken on the first day after a storm as to indicate the possibility of a thorough washing out of impurities by the storm, and a gradual restoration, after its subsidence, of the ordinary state of the well. Further samples of the water having been examined in June, the chemist reported that "there has been an increase in the amount of impurity since the May analysis, the amount of albuminoid ammonia being just twice what it was then; but the amount of impurity revealed can hardly be said to be of itself evidence of dangerous contamination." In explanation of the offensive odor and taste of the water when first drawn in the morning, Surgeon C. R. Greenleat remarked: "This is frequently the case in well-waters that rest on clay, and is caused by slight decomposition of iron in the soil. When the well stands unused for a few hours the taint is manifest, but it disappears when the water is being constantly used." A new well, about 45 yards from the old one, was finished in November.

At *Fort Assiniboine, Mont.*, Assistant Surgeon L. A. LaGarde reports: "The water used for drinking, cooking, etc., has been turbid during the greater part of the month. The eight cases of fever reported, out of a total of twenty-seven admissions, are more than likely due to malaria dependent upon the condition of the water. The turbidity of the water is principally due to suspended vegetable matter washed down by the melting snow in the Bear Paw Mountains."

DRAINAGE, SEWERAGE, ETC.

The necessity for an improved system of drainage for their respective posts has been urged during the year by the medical officers at Fort Custer, Mont.; Fort Lyon, Colo., and Fort Davis, Tex.

At several posts the water-closet facilities have been reported as inadequate; at Fort Adams, R. I., for instance, where the water supply of the post can not be spared for satisfactory flushing; at David's Is-

land, N. Y., where the difficulty will be overcome when the water is introduced from New Rochelle; and at Fort Wayne, Mich., where there seems no reason for their absence, as the post draws its water from the city supply of Detroit. The medical officer at Fort Yates, Dak., objected to the pit system of disposing of human excreta in use at that post, and suggested sewers or impervious vaults, to be emptied as required, by suction apparatus; but the commanding officer of the department took exception to these views, as the post is in the "dry region," where experience has shown that the primitive pits may be used for many years without impairing the healthfulness of the site, provided that the water-supply, as in the case in point, has no connection with the honey combed soil. At many of the posts in the West and Northwest the dry-earth system is successfully employed; and the severity of the winters at northern stations is no bar to its use, for the great cold which prevents the removal of the frozen mass prevents at the same time all exhalation from the deposited matters until the return of a milder temperature permits them to be regularly removed. Usually, in the progress of sanitary improvement at a military post, the pit or sink gives way to the well-lined vault; the latter to some form of earth-closet, and this again to the water-closet and a well-planned system of sewerage. But sewers require to be thoroughly flushed from time to time, and if this be not done they become worse than useless, so much so that at Fort Missoula, Mont., where this condition of affairs existed, the medical officer regarded a return to the open sink, with its daily layer of earth, as a sanitary improvement. An investigation of the sewerage of West Point, N. Y., with a correlated examination of the sick-report for a number of years back, conducted by Surgeon Charles L. Heizmann, has enabled that officer to record his opinion as to the trustworthiness of the system now in use at that important post.

At *Fort Custer, Mont.*, Assistant Surgeon W. R. Hall called attention to the possible contamination of the water on account of the proximity of many of the water-pipes to the sinks. "This condition exists more especially along the officers' line. The water-pipes leading to the officers' quarters are, as before referred to, near most of the vaults, and, I believe, run through one or more of the old vaults. The yards are small, and as the quarters have been occupied for some ten years or more, the earth is probably saturated. I strongly recommend that all these vaults be disinfected and filled in and the buildings moved into proper positions and converted into earth-closets. There are only twenty-one sets of officers' quarters on the line, and I deem it perfectly practicable to empty the boxes daily and to cart away the contents. This is the only safe substitute for water-closets that can be introduced at present. The other privies are better situated as regards the water-supply, and there is room to move them in case of necessity." In forwarding this report the post commander stated that "the present system of sinks has existed since the establishment of the post. To daily remove in the hot season the deposits of dry-earth sinks by soldiers for so large a garrison as Fort Custer would tend to double the desertions, in my opinion. With the mercury two or three months in the year ranging from 30° to 45° below zero, it would be almost impossible to pick out the deposits with an ordinary pick. An ax would have to be used, and a new box would be required weekly if not almost daily. If this system is adopted for officers' sinks, it should be given the soldiers also. The large main pipes of the water-works run in close proximity, say within 4 to 6 feet, of the sinks of the officers' quarters. In one instance the pipes go through a yard close to an old sink filled up years ago. Iron pipes in all large cities supplied with water in a similar way run through equally objectionable places. New virgin soil was packed around the pipes in the single instance cited." In forwarding the report the medical director recommended "that the dry-earth system be introduced at Fort Custer. If they [the boxes] can not be supplied in winter on account of the cold, the same cold renders less objectionable the system of privy vaults, which then may be used."

At *Fort Lyon, Colo.*, Surgeon J. R. Gibson reported a part of the sewer as defective and dangerous. The piping stops at about 60 feet from the outlet, and the intervening space is a covered trench unwalled and uncemented. He is convinced that the sewage is not delivered at the outlet of the sewer, but is absorbed into the soil of

the covered trench. He recommends that tile-drains be substituted for all open surface drainage. Pipes will be introduced as soon as received.

At *Fort Davis, Tex.*, Surgeon J. V. Lauderdale reported that the drainage of the post requires attention to prevent the torrents that sometimes come down the cañon from overflowing a portion of the reservation.

At *Fort Ringgold, Tex.*, in November, Assistant Surgeon W. C. Borden states that the open brick drains are much out of repair, and that there is no adequate system of drainage for liquid refuse and waste water at the post.

At *Fort Meade, Dak.*, Surgeon C. T. Alexander recommended the purchase of an excavating pump for emptying vaults. "Special attention is invited to this subject, as the vaults are very near the quarters and within 10 feet of the kitchen of the quarters I now occupy, and the space for digging new vaults does not exist. The emptying of vaults the 1st of May and last of October is the best that can be done until the post is supplied with a proper system of water-works and drainage. So distasteful is this work of emptying vaults by the common method that they are left stinking holes until necessity compels their filling and new ones dug. Past experience at more than one post has proven how deleterious and insalutary this system has been."

Fort Niobrara, Nebr., Assistant Surgeon T. E. Wilcox: When we consider the quantity of excreta, solid and liquid, produced by a large garrison, and the porous nature of the soil in which the sinks for their reception are excavated, the danger of soil pollution becomes evident. The simple emptying of these sinks of their solid contents would afford but little protection. To provide for the removal of this offensive and dangerous material a liberal expenditure of money becomes necessary. In this climate the problem is complicated by the great degree of frost which prevails in the winter months, and for its solution requires frost-proof buildings or such as may be kept so by means of fire. These, with brick-lined and cemented vaults, from which the contents as a whole may be removed by suitable apparatus, will, I think, meet the present requirements, and will offer no obstacle to the introduction of a thorough system of sewerage when the water becomes available.

At *Fort D. A. Russell, Wyo.*, Surgeon D. G. Caldwell called attention to the objectionable privy-pits and imperfectly ventilated cesspools. My opinion is that unless some system of sewerage and drainage is constructed soon there is danger that fevers of miasmatic origin will make their appearance in the near future. It has not been found practicable to provide for the removal of excreta by emptying the pits, and a proper system of sewerage is the only remedy.

Fort Stanton, N. Mex., Assistant Surgeon M. E. Taylor: The insalutary state of the drainage of the post has been largely remedied by the construction of a partially combined system of drainage and sewerage. A system of sewerage by irrigation, recommended, was approved and ordered. It has been so constructed as to get a part of its flushings from the surface drainage, a part from the acequia, and in any deficiency, from the water-works. Branch pipes lead from buildings to a main sewer, which empties into settling-tanks admirably constructed and needing only a delayed siphon for their completion. After settling, the sewage is distributed to a well-adapted slope of ground nearly half a mile from the flagstaff in the opposite direction to the prevailing winds. The distribution is above and near the gardens of our troop of cavalry and the hospital. The difficulty of getting the work of good trapping done, and of making connections with occupied houses perfectly safe, induced me to recommend that no water-closets be put in the quarters, and that the earth-closet system be adopted for excreta. I am gratified that in the main earth-closets, brought within convenience of the troops, have been substituted for the sickening privy-vaults just abandoned. With an abundance of dry earth and frequent removal the earth-closets should remain odorless and harmless. Disinfectants are useful under certain conditions, but a dependence upon them frequently leads to a false security, as most of them, copperas and corrosive sublimate excepted, emit such strong smells as to cover the danger beneath. An abundance of dry earth, kept handy and used by each person frequenting it, will keep an earth-closet odorless until saturation of the earth announces itself. A large box of finely-powdered dry earth, with a shovel, is useful in each earth-closet, and adds to the convenience of emptying the receptacles.

Fort Adams, R. I., Surgeon S. M. Horton: The vaults of some of the out-houses used by the families of soldiers allow the partial escape of their contents into the surrounding soil, and owing to the proximity of these vaults to the wells the probabilities are strongly in favor of the contamination of the water-supply. The water-closets of the enlisted men in barracks, and of the officers' servants and married soldiers of the post, require attention. Most of these are merely improvised earth-commodes, which have become foul and taint the atmosphere around them. There is but one water-closet of twelve seats for four batteries and the band. This is 200 yards

distant from the barracks of Battery D, and considerably farther from that of the band. The atmosphere in this water-closet is foul. Surgeon Horton recommended that the improvised commodes referred to be done away with, and small latrines or water-closets with flushing apparatus be substituted. He also urged the construction of more water-closets, and in October noted that the vault belonging to the quarters of the non-commissioned staff had not been emptied since June, and was foul and offensive. In June he reported that the drainage and sewerage system of the post was not good. "There are not one-fourth enough man-holes, and the flushing of the pipes is insufficient." He recommended that the sewers be flushed every second day during the warm weather, but the water-supply of the post was so limited that this could not be done.

At *David's Island, N. Y.*, Surgeon J. V. D. Middleton, in sanitary reports for March and August, suggested that "steps be taken to have suitable water-closets and bath-rooms erected in rear of the new barracks. The privies now in use are unsightly, devoid of all comfort, and at too great a distance from the quarters. It can hardly be expected that the men will visit them during the winter season until absolute necessity forces them to do so, as the wind blows a hurricane through them and they are most uncomfortable. The desire to unload the bowels is put off as long as possible, and the consequence is habitual constipation, followed by its succession of evils. And many of the ailments with which soldiers are affected are doubtless due to this cause. The excuse for retaining these objectionable places heretofore has been the want of proper facilities for flushing, but this will in a short time no longer obtain, as water will be brought to the island from New Rochelle, and it can be supplied in as large quantities as required."

At *Fort Wayne, Mich.*, Surgeon H. McElderry reported that "the privy arrangement for the enlisted men is open to the same objection as the sinks in the rear of the officers' quarters; it is simply a large cesspool built over the open sewer, the urinal being in a shed on the outside and not being provided with any flushing arrangements. Although the place is kept in good police, the system is defective and the whole arrangement is the source of many vile odors which are a nuisance not only to the immediate neighborhood and to persons using it, but occasionally, when wafted by the wind, to the occupants of the barrack buildings. To this cause, in my opinion, may be attributed the cases of typhoid fever among the men which have for years occurred at this post. I respectfully recommend that twelve hopper-closets and six delf upright urinals, with automatic flush-tanks, be provided for the use of the enlisted men of the garrison; and that the building containing them be provided with a suitable heating apparatus to prevent the freezing of the pipes in winter. Now that the post is abundantly supplied with water from the city water-works there would seem to be no reason why facilities should not be furnished for the use of the enlisted men as well as officers, such as every hotel or public institution affords its employés, contributing not only to their material comfort, but also giving them the best protection against disease."

At *Fort Yates, Dak.*, November, Acting Assistant Surgeon W. Shippen reported that "the drainage and sewerage at the post is in most primitive condition, and should receive early attention. The post is honey-combed with old filled-in privy-pits which render the soil filthy and unwholesome. There are two ways to remedy this evil: First, by a complete system of underground sewers, and second, digging a deep vault, walled in, and emptied at intervals by some odorless excavator, such as is used by many municipal health authorities. The waste-water from kitchens, wash and bath rooms should be carried off by underground pipes." Brig. Gen. T. H. Ruger, commanding the department of Dakota, in forwarding the report, remarked that "the post of Fort Yates has been and, judging from its past history and that of other posts similarly situated in the dry region, will, with usual care, continue to be healthy so long as it will likely be retained, even if the usual method of privy-pits should be continued. There is, of course, a vast difference in respect to results probable from the system of pits at a post like Fort Yates, in a dry region, and with ample spaces between buildings, and an almost always good movement of air, and water-supply not contaminated or possible to be from the pits, and a place where buildings are close, the air humid, etc. The question of what should be done at posts in the Department of Dakota to improve the condition as to sewerage is under consideration. It would be unwise to attempt an expensive system at posts which will not be occupied more than ten or fifteen years, unless evidently required. At Fort Assiniboine, where the winters are as severe as at any post, the dry-earth system has been in successful operation for ten years. The only serious objection is that by the primitive method there used the air, particularly when the wind blows, draws through the spaces between the boxes and the frames, which is of course a very uncomfortable condition, in winter particularly. This might be remedied in part by better fitting, but the only thorough remedy, I think, will be to inclose the whole (seats and boxes) in a privy building, and thus cut off the air-current from the

rear of the boxes. A scavenger, a civilian employé, should be allowed whenever the dry-earth system is adopted at frontier posts. The commanding officer at Fort Yates has been directed to forward plans and estimates for application of the dry-earth method at that post."

Fort Missoula, Mont., Surgeon C. DeWitt: "The stench from the sewer underneath the privies connected with the officers' quarters became so disgusting that its abandonment, necessitated by its becoming clogged, and the substitution of pits, has not only been a great relief, but I believe has been a decided move in the interest of the health of those compelled to resort to them."

At *West Point, N. Y.*, Surgeon C. L. Heizmann reported that his attention was called to the condition of the sewerage at a set of officers' quarters by a case of obscure sickness, neither febrile nor acute, which had been pronounced by a distinguished physician of New York City to have been occasioned by sewer-gas. After examination of the system of sewerage and drainage in the officers' quarters generally, the character of the material, and the work by which constructed, whether certain auxiliary measures, as flushing, airing man-holes, etc., had been systematically carried out, and as to the possibility of a disease more clearly traceable to sewer-gas than the one in question, he found that since 1877 no case of disease attributed to sewer origin has been reported in the records; and stated that he deemed the present system safe.

At *St. Francis Barracks, Fla.*, Surgeon P. Middleton reported that there is no way of disposing of the filth and garbage of the post except by dumping it on the beach; and that the shore of the reservation is trespassed upon by police carts from the adjacent city of St. Augustine. He recommended, in anticipation of the appearance of yellow fever, that a crematory be provided for the use of the post, and the erection of a fence to prevent the invasion of the garbage carts of the city.

BATHING FACILITIES.

Deficient bathing facilities have rarely been reported. The following extracts embody the whole of the special points mentioned under this heading during the year:

At *Watertown Arsenal, Mass.*, Surgeon J. C. McKee called attention to the inadequate and unsatisfactory bathing facilities provided for the enlisted men—only one bath-tub with cold-water faucet. He urged that two additional tubs be provided and that hot water be supplied through a pipe connecting with a boiler at the kitchen range.

Surgeon A. Heger, at *Fort Columbus*, urged the continuance of the rule against bathing in the waters surrounding the island, and that the erection of bath-houses be stopped. The rule against bathing, in force for several years, has proved to be an excellent one, and the bathing facilities in quarters are sufficient. The cause of health and cleanliness can not be advanced by immersion in water contaminated with sewage.

At *Fort Supply, Ind. T.*, Assistant Surgeon J. L. Powell recommended that immediate steps be taken for the construction of bath-houses with hot and cold water for each set of quarters in the garrison.

At *Fort McIntosh, Tex.*, the bathing facilities were reported as utterly inadequate.

At *Fort Ringgold, Tex.*, Assistant Surgeon W. F. Carter remarked on the insufficient arrangements for bathing at the post. He says: "I do not think it advisable to allow the men to bathe in the river during hot weather. They would usually be exposed to the direct rays of the sun, and the rapid alternate cooling and heating of the body would be productive of sickness."

Fort McIntosh, Tex., Surgeon J. H. Bartholf: "I urgently recommend the construction of a simple and inexpensive bath-house for each company. A brick building, 12 feet square, having three bath-tubs, and the floor saucer-shaped, of rubble, gravel, and cement, with a spray-douche overhead in the center, would fulfill the requirements. The bath facilities for each company are at present utterly inadequate—a temporary board partition of a part of the barrack veranda inclosing a single bath-tub."

HABITS, ETC.

Medical officers generally report the personal habits, cleanliness, etc., of the men as excellent. Drunkenness and venereal disease are two blots which occasionally appear on the record. The former seems to have been

favorably modified by the establishment of canteens, as reported by Assistant Surgeons De Loffre, at Fort Totten, Dak.; C. B. Ewing, at Fort Lewis, Colo., and W. H. Corbusier, at Fort Grant, Ariz. The latter will also be affected if the abuse of stimulants is materially lessened. The great prevalence of venereal disease at Fort Custer, Mont., appears to have been such as would have warranted special measures for their repression. Fort Grant, Ariz., also seems to have had an unenviable notoriety in this respect. As regards amusements and occupation for the idle hours of garrison life, particularly at snow-bound posts, Surgeon Woodruff has entered a strong plea on behalf of the establishment of a gymnasium. Any means which will reclaim men from dissipated habits or prevent the ennui which leads to their formation would be cheap in the long run, if such a record as that noted by Assistant Surgeon Corbusier, at Fort Grant, Ariz., could be prevented.

Fort Totten, Dak., Assistant Surgeon A. A De Loffre: The canteen, Company K, Fifth Infantry, serves a good purpose by keeping the men from the post trader's store, and affording them other ways of spending their money besides beer and cards.

Fort Lewis, Colo., Assistant Surgeon C. B. Ewing: The formation of a canteen has been beneficial to the men. The sale of beverages has been limited to that of the mildest, viz, beer, which only contains from 3 to 5 per cent. of alcohol; hence, I think, drunkenness will continue to decrease. Again, the sale of this is controlled by those in authority, who have the good of the soldier and not the contents of his purse at heart. The soldier has been the common prey of post-traders and sutlers since time immemorial; he has been robbed and drugged without stint until at last he has been forced to combine for mutual protection into the canteen. From this protective association the soldier gets what he has never obtained before in the history of the army, and that is a dollar's worth for a dollar: heretofore as high as 100 and 200 per cent. of his meager earnings has been taken from him, without return, under the guise of trade.

At *Fort Custer, Mont.*, in January, Assistant Surgeon W. R. Hall called attention "to the number of cases of venereal diseases on sick report during the year 1887, and this month. In 1887 there were 52 cases of this nature on sick report, with a total number of days lost to the service of 1,495. In January 13 cases, with 296 days lost.

Fort Grant, Ariz., Assistant Surgeon W. H. Corbusier: "During the last six months venereal diseases have prevailed at this post and its vicinity to such an extent as to be almost epidemic. Most of the cases at the post have been contracted at the two whisky ranches located just beyond the limits of the reservation, where a crowd of gamblers and prostitutes, who follow in the wake of the paymaster, congregate every two months to prey upon the enlisted men. * * * Since the opening of the canteen and bowling alley the men have visited the whisky ranches less frequently, as they have had the means of amusing themselves when off duty without resorting to these dens."

Fort Mackinac, Mich., Assistant Surgeon C. E. Woodruff: The experience gained during the past winter shows forcibly the advantages to be gained by having a gymnasium, where the men can take appropriate exercise during the long and severe winter. This post is peculiarly situated, and after the lively summer season is over it is comparatively isolated, and the men are, when off duty, thrown entirely on their own resources to pass the time. During about five months the chief duties are shoveling snow, drill, and guard; the snow is too deep to allow of outdoor exercise, excepting those sports requiring expensive apparatus, as snow-shoes and toboggans. Although there is much reading matter supplied him, the average soldier is not of a literary turn, and he can find but little with which to pass away the hours when not on duty. The beaten paths in the snow lead him very naturally to the village saloon, and thus give rise to much unnecessary drunkenness. The prescribed drills are not sufficient exercise for the muscular men found in the ranks, and the active exercise they obtain in the gymnasium would be of immense benefit. The men themselves feel the need of such, for just as soon as the snow disappears they improve their time as much as possible with base ball and other outdoor exercise. It is certain that the saving in health from a diminution, however small, of drunkenness, and the wholesome use of all the muscles, together with the increased power for work one experiences when there is no enforced idleness, would more than compensate for the small expense of the building for the purpose. It is to be regretted that former estimates for a building for this purpose have been disapproved, and I recommend that efforts be renewed to obtain a suitable building.

APPENDED PAPERS.

In closing this communication I desire to invite attention to the statistical tables which accompany it. They present the sickness of the Army in its whole and parts from various points of view, and enter into minor details which, although unsuited for remark in a paper of this character, have much interest for special investigators in several of the fields of medical science. They consist of the following:

Table I. Giving a numerical view of the effects of disease and injury on the Army during the calendar year 1888, as compared with the corresponding data from the reports of 1887, and of the decade ending December 31, 1886.

Table II. Giving a general view of the results of disease and injury at each of the various military stations, arranged in the numerical order of their mean strength.

Table III. Showing the ratios per thousand of mean strength, of admissions to sick report, non-effectiveness, discharges, and deaths caused by the various diseases and injuries reported from the white and the colored troops during the year.

Table IV. Showing the rates per thousand of mean strength of admissions, non-effectiveness, discharges, and deaths among the white and the colored troops, the causes arranged in accordance with their importance as factors of non-effectiveness.

Table V. A comparison of the rates of admission, discharges, and deaths during the year with those of the United States Army in previous years and of certain foreign armies.

Table VI. Showing the seasonal prevalence of disease among the white and the colored troops.

Table VII. Rates of admission, non-effectiveness, death, and discharge, per thousand of strength, for disease and injury, tabulated in accordance with the age of the men.

Table VIII. Death rates and discharge rates per thousand of all admissions to sick report in each group of ages.

Table IX. Rates of admission, non-effectiveness, death, and discharge, per thousand of strength, for disease and injury, tabulated in accordance with the length of service of the men.

Table X. Death and discharge rates per thousand of all admissions to sick report, tabulated in accordance with length of service.

Table XI. The meteorological characteristics of the various regions during the year.

Table XII. Showing for each region the various military stations established in it, with their rates of admission, non effectiveness, discharge, and death, and the classified causes among which these rates were distributed in each region as a whole.

Table XIII. Giving for each military station the rates of admission, non-effectiveness, discharge, and death, and the causes to which these were attributed.

Table XIV. Showing the causes and ratios of rejection among 21,401 recruits examined during the year, whites 19,432, colored 1,969.

Respectfully submitted.

JOHN MOORE,
Surgeon-General, U. S. Army.

HON. REDFIELD PROCTOR,
Secretary of War.

APPENDED PAPERS.

STATISTICAL TABLES.

TABLE I.—*A numerical view of the effects of disease and injury on the Army during the calendar year* 1888, *as compared with the corresponding data from the reports of* 1887 *and of the decade ending December* 31, 1886.

	White.	Colored.	Total.
Average strength as shown by returns of the Adjutant-General	*24, 103	*2, 636	*26, 739
as shown by reports of the Medical Department	†22, 310	†2, 416	†24, 726
All admissions to sick report during the year	27, 881	3, 539	31, 420
treated in hospital			15, 370
treated in quarters			14, 939
treated in field			1, 111
Ratio of all admissions per 1,000 of mean strength	1, 249. 71	1, 464. 82	1, 270. 73
for the previous year	1, 231. 42	1, 395. 98	1, 246. 88
for the preceding decade	1, 602. 36	1, 794. 63	1, 620. 32
Admissions for disease	22, 602	2, 813	25, 415
ratio per 1,000 of mean strength	1, 013. 09	1, 164. 32	1, 027. 87
for the previous year	992. 45	1, 093. 75	1, 001. 97
for the preceding decade	1, 361. 05	1, 530. 78	1, 376. 90
Admissions for injury	5, 279	726	6, 005
ratio per 1,000 of mean strength	236. 62	300. 50	242. 86
for the previous year	238. 97	302. 23	244. 91
for the preceding decade	241. 31	263. 85	243. 42
Ratio per 1, 000 of mean strength of cases treated in hospital			621. 61
of cases treated in quarters			604. 19
of cases treated in field			44. 93
Number constantly non-effective during the year	928. 60	107. 66	1, 036. 26
ratio per 1,000 of mean strength	41. 62	44. 56	41. 91
ratio for the previous year	41. 99	46. 07	42. 38
ratio for the preceding decade	43. 77	43. 01	43. 70
Number of days lost on account of sickness during the year	339, 868	39, 404	379, 272
average for each man of the Army	15. 2	16. 3	15. 3
for the previous year	15. 3	16. 8	15. 5
for the preceding decade	16. 0	15. 7	15. 9
Average number of days each case was treated	12. 2	11. 1	12. 1
for the previous year	12. 4	12. 0	12. 4
for the preceding decade	10. 0	8. 8	9. 8
Average days' treatment for patients returned to duty			10. 2
discharged for disability			76. 4
who died			23. 8
Number of discharges for disability	667	75	742
ratio per 1,000 of mean strength	27. 67	28. 45	27. 75
for the previous year	26. 61	31. 71	27. 08
for the preceding decade	32. 43	31. 60	32. 36
Number of discharges for disease	588	62	650
ratio per 1,000 of mean strength	24. 39	23. 52	24. 31
for the previous year	24. 15	28. 83	24. 58
for the preceding decade	28. 36	26. 96	28. 24
Number of discharges for injury	79	13	92
ratio per 1,000 of mean strength	3. 28	4. 93	3. 44
for the previous year	2. 46	2. 88	2. 50
for the preceding decade	4. 07	4. 64	4. 12
Number of deaths from all causes	182	36	218
ratio per 1,000 of mean strength	7. 55	13. 66	8. 15
for the previous year	7. 85	10. 71	8. 12
for the preceding decade	9. 97	12. 91	10. 23
Number of deaths from disease	135	28	163
ratio per 1,000 of mean strength	5. 60	10. 62	6. 09
for the previous year	5. 43	7. 83	5. 65
for the preceding decade	6. 06	7. 53	6. 19
Number of deaths from injury	47	8	55
ratio per 1,000 of mean strength	1. 95	3. 04	2. 06
for the previous year	2. 42	2. 88	2. 47
for the preceding decade	3. 91	5. 38	4. 04

* Used in computing the ratios of deaths and discharges for the whole Army.
† Used in computing all ratios for the Army except those of deaths and discharges.

TABLE II.—*Giving a general view of the results of disease and injury at each of the various military stations, arranged in the numerical order of their mean strength.*

GROUP I.—Twelve stations, garrisoned by 400 to 700 men each. Average, 487.

Military stations.	Mean strength.	Admissions.		Constant non-effective.		Deaths.		Discharges.	
		No	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Jefferson Barracks, Mo	701	1,367	1,950.07	55.88	79.71	19	27.10	31	44.22
David's Island, N. Y	634	972	1,533.12	29.15	45.98	11	17.35	9	14.20
Fort Leavenworth, Kans	607	916	1,509.06	24.85	40.94	1	1.65	10	16.47
Columbus Barracks, Ohio	489	1,015	2,075.66	40.04	81.87	3	6.13	14	28.63
San Antonio (post), Tex	461	435	943.60	17.70	38.41	4	8.68	8	17.35
Vancouver Barracks, Wash	441	560	1,269.84	18.60	42.19	1	2.27	15	34.01
Presidio of San Francisco, Cal	439	493	1,123.01	23.90	54.43	7	15.94	32	72.89
Fort Clark, Tex	431	618	1,433.87	22.29	51.71	5	11.60	18	41.76
Fort Meade, Dak	419	470	1,121.72	14.90	35.56	3	7.16	12	28.64
Fort Assinniboine, Mont	412	461	1,118.93	15.07	36.59	1	2.43	9	21.84
Fort Robinson, Nebr	403	373	925.56	17.34	43.04	3	7.44	17	42.18
Fort Riley, Kans	402	458	1,139.30	20.65	51.36	2	4.98	11	27.36
Summary	5,839	8,138	1,393.73	300.37	51.44	60	10.28	186	31.85

GROUP II.—Thirteen stations, garrisoned by 300 to 400 men each. Average, 339.

Fort Niobrara, Nebr	383	540	1,409.92	13.91	36.31	4	10.44	15	39.16
Fort Custer, Mont	375	467	1,245.33	18.59	49.58	3	8.00	13	34.67
Fort Keogh, Mont	367	416	1,133.51	14.61	39.82	4	10.90	5	13.62
Willet's Point, N. Y	357	801	2,243.70	21.99	61.59	3	8.40	12	33.61
Fort Omaha, Nebr	350	513	1,465.71	23.01	65.73	5	14.29	11	31.43
West Point (soldiers' hosp.), N. Y	340	385	1,132.35	7.48	22.00	4	11.76	6	17.65
Fort D. A. Russell, Wyo	332	300	903.61	12.35	37.21	4	12.05	7	21.08
Fort Douglass, Utah	330	430	1,303.03	13.78	41.75	5	15.15	11	33.33
Fort Reno, Ind. T	317	437	1,378.55	14.85	46.85	2	6.31	9	28.39
Fort Lewis, Colo	316	248	784.81	9.43	29.84	1	3.16	7	22.15
Fort Bayard, N. Mex	316	557	1,762.66	12.51	39.60	4	12.66	13	41.14
Fort Wingate, N. Mex	314	300	955.41	11.71	37.30	1	3.18	4	12.74
Fort Buford, Dak	309	373	1,207.12	13.13	42.50	..	.....	9	29.13
Summary	4,406	5,767	1,308.90	187.36	42.52	40	9.08	122	27.69

GROUP III.—Sixteen stations, garrisoned by 200 to 300 men each. Average, 256.

Fort Snelling, Minn	299	255	852.84	9.98	33.39	3	10.03	10	33.44
Fort Walla Walla, Wash	291	406	1,395.19	13.36	45.90	.....	.....	8	27.49
Fort Huachuca, Ariz	283	212	749.12	8.24	29.12	1	3.53	2	7.07
Fort Monroe, Va	281	426	1,516.01	13.55	48.24	3	10.68	6	21.35
Fort Sill, Ind. T	277	441	1,592.06	12.40	44.75	2	7.22	12	43.32
Fort Grant, Ariz	274	277	1,010.95	13.91	50.76	3	10.95	2	7.30
Fort Yates, Dak	266	309	1,161.65	10.92	41.05	1	3.76	8	30.08
Washington Barracks, D. C	264	455	1,723.48	12.72	48.20	.....	.....	6	22.73
Fort Supply, Ind. T	263	422	1,604.56	11.23	42.71	3	11.41	7	26.62
Fort Spokane, Wash	237	353	1,489.45	10.93	46.11	1	4.22	7	29.54
Fort Sherman, Idaho	236	300	1,271.19	8.56	36.27	3	12.71	8	33.90
Fort Union, N. Mex	231	220	952.38	7.61	32.93	1	4.33	5	21.65
Madison Barracks, N. Y	230	304	1,321.74	8.40	36.51	3	13.04	1	4.35
Fort Adams, R. I	229	240	1,048.03	6.88	30.04	4	17.47	1	4.37
Fort Du Chesne, Utah	222	368	1,657.66	8.67	39.08	.....	.....	7	31.53
Fort Lyon, Colo	209	239	1,143.54	4.80	22.96	2	9.57	4	19.14
Summary	4,092	5,227	1,277.37	162.16	39.63	30	7.33	94	22.97

TABLE II.—*Giving a general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP IV.—Thirty-five stations, garrisoned by 100 to 200 men each. Average, 154.

Military stations.	Mean strength.	Admissions.		Constant non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Hamilton, N. Y.	196	217	1,107.14	5.70	29.11	1	5.10	4	20.41
Fort Apache, Ariz.	196	183	933.67	5.41	27.60	1	5.10	2	10.20
Fort Shaw, Mont.	194	218	1,123.71	7.53	38.83	3	15.46	....	....
San Carlos, Ariz.	192	279	1,453.12	7.67	39.96	4	20.83	2	10.42
Fort McKinney, Wyo.	191	246	1,287.96	6.97	36.51	....	....	6	31.41
Fort Missoula, Mont	189	194	1,026.46	6.94	36.70	2	10.58	3	15.87
Fort Sidney, Nebr.	187	309	1,652.41	8.86	47.38	1	5.35	11	58.82
Fort Davis, Tex.	187	188	1,005.35	6.58	35.17	1	5.35	14	74.87
Whipple Barracks, Ariz.	186	167	897.85	8.63	46.37	....	....	11	59.14
Fort Laramie, Wyo	184	251	1,364.13	8.51	46.26	3	16.30	14	76.09
Fort Wayne, Mich	179	230	1,284.92	7.04	39.35	2	11.17	....	....
Fort Elliott, Tex	179	223	1,245.81	5.36	29.95	4	22.35	5	27.93
Fort Randall, Dak.	176	196	1,113.64	7.57	43.02	....	....	4	22.73
Fort Sully, Dak.	175	202	1,154.29	4.90	28.01	2	11.43	6	34.29
Fort Bridger, Wyo	169	177	1,047.34	6.02	35.65	....	....	9	53.25
Fort Stanton, N. Mex	162	92	567.90	4.06	25.05	3	18.52	2	12.35
Fort Columbus, N. Y.	152	123	809.21	5.19	34.14	....	....	....	....
Fort Lowell, Ariz	149	251	1,684.56	7.81	52.41	1	6.71	10	67.11
Fort Brown, Tex.	144	549	3,812.50	13.89	96.48	1	6.94	15	104.17
Fort McIntosh, Tex	142	295	2,063.38	8.84	62.23	2	14.08	7	49.30
Angel Island, Cal.	140	89	635.71	5.72	40.87	2	14.29	8	57.14
Fort Bowie, Ariz.	139	123	884.89	3.94	28.34	....	....	4	28.78
Fort Ringgold, Tex	138	113	818.84	4.89	35.44	1	7.25	....	....
Fort Myer, Va	138	192	1,391.30	4.79	34.71	....	....	7	50.72
Fort Hays, Kans	137	194	1,416.06	6.31	46.03	....	....	4	29.20
Fort Concho, Tex	129	211	1,635.66	7.41	57.46	....	....	16	124.03
Fort Washakie, Wyo.	126	215	1,706.35	5.50	43.65	1	7.94	3	23.81
Fort Bidwell, Cal	121	141	1,165.29	3.33	27.55	....	....	3	24.79
Prison guard, Leavenworth, Kans.	117	88	752.14	1.16	9.88	1	8.55	1	8.55
Fort Maginnis, Mont.	117	156	1,333.33	3.95	33.72	3	25.64	1	8.55
Fort Bliss, Tex.	115	174	1,513.04	3.61	31.41	1	8.70	3	26.09
Fort McHenry, Md.	113	159	1,407.08	7.12	62.99	1	8.85	3	26.55
Fort A. Lincoln, Dak.	112	138	1,232.14	3.92	35.01	....	....	....	....
Little Rock Barracks, Ark.	107	157	1,467.29	5.36	50.07	....	....	5	46.73
Fort Thomas, Ariz.	106	173	1,632.08	5.97	56.35	2	18.87	4	37.74
Summary	5,384	6,911	1,283.62	216.46	40.21	43	7.99	187	34.73

GROUP V.—Fifty-eight stations, garrisoned by 1 to 100 men each. Average, 60.

Fort Sheridan, Ill	98	85	867.35	2.36	24.12	....	....	1	10.20
Boisé Barracks, Idaho	98	216	2,204.08	5.20	53.11	....	....	3	30.61
Fort McDowell, Ariz.	98	127	1,295.92	2.89	29.49	1	10.20	1	10.20
Post near Denver (Logan), Colo.	97	248	2,556.70	7.46	76.95	....	....	....	....
Poplar River, Mont	95	131	1,378.95	3.40	35.78	1	10.53	1	10.53
Alcatraz Island, Cal.	94	80	851.06	3.91	41.56	....	....	5	53.19
Fort Niagara, N. Y.	92	54	586.96	2.25	24.44	....	....	3	32.61
Fort Gibson, Ind.	89	151	1,696.63	3.81	42.83	1	11.24	1	11.24
Fort Totten, Dak	88	67	761.36	3.39	38.50	....	....	3	34.09
Fort Marcy, N. Mex	85	127	1,494.12	4.02	47.32	1	11.76	3	35.29
Fort Pembina, Dak	84	82	976.19	1.95	23.16	....	....	2	23.81
Fort Crawford, Colo.	82	62	756.10	3.20	38.98	1	12.20	1	12.20
Fort Mackinac, Mich.	80	106	1,325.00	2.07	25.92	....	....	2	25.00
Camp Pilot Butte, Wyo	80	107	1,337.50	3.46	43.27	3	37.50	5	62.50
Fort Warren, Mass.	78	101	1,294.87	3.93	50.37	....	....	....	....
Fort Porter, N. Y.	77	73	948.05	3.11	40.34	....	....	4	51.95
Mount Vernon Barracks, Ala.	76	104	1,368.42	2.87	37.82	1	13.16	2	26.32
Fort Brady, Mich.	75	116	1,546.67	2.08	27.76	....	....	....	....
Fort Trumbull, Conn.	72	54	750.00	1.46	20.30	2	27.78	....	....
Fort Schuyler, N. Y.	71	100	1,408.45	1.78	25.09	....	....	2	28.17
Benicia Barracks, Cal	70	77	1,100.00	4.57	65.30	1	14.29	5	71.43
Jackson Barracks, La.	67	61	910.45	1.19	17.78	1	14.93	....	....
St. Francis Barracks, Fla.	66	91	1,378.79	2.28	34.57	1	15.15	3	45.45
Fort Verde, Ariz.	66	70	1,060.61	2.53	38.29	....	....	2	30.30
Fort Sisseton, Dak.	66	53	803.03	1.61	24.38	....	....	2	30.30
Fort Wadsworth, N. Y.	60	41	683.33	1.20	20.08	....	....	2	33.33
Rock Island Arsenal, Ill	57	72	1,263.16	1.31	22.96	2	35.09	2	35.03
Camp Sheridan, Wyo	56	78	1,392.86	2.81	50.25	1	17.86	4	71.45
Fort Barrancas, Fla.	55	61	1,109.09	1.87	33.98	3	54.55	3	54.59

TABLE II.—*Giving a general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP V.—Fifty-eight stations, garrisoned by 1 to 100 men each. Average 60—Continued.

Military stations.	Mean strength.	Admissions.		Constant non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Benicia Arsenal, Cal	55	47	854.55	.77	14.01				
Watervliet Arsenal, N. Y	54	33	611.11	1.90	35.27			1	18.52
Camp Monte Sano, Ala	54	97	1,796.30	4.26	78.88				
Fort Klamath, Oregon	53	53	1,000.00	1.20	22.68	1	18.87	2	37.74
San Diego Barracks, Cal	53	65	1,226.42	2.86	53.87	2	37.74	2	37.74
Camp Pena Colorado, Tex	52	34	653.85	1.45	27.90			1	19.23
Camp at Eagle Pass, Tex	52	41	788.46	1.98	38.15			1	19.23
Fort Townsend, Wash	52	56	1,076.92	1.41	27.06	1	19.23	1	19.23
Fort Hancock, Tex	49	78	1,591.84	2.06	42.04	2	40.82	1	20.41
Fort Ontario, N. Y	48	67	1,395.83	2.07	43.20				
Fort Bennett, Dak	48	52	1,083.33	1.07	22.31			2	41.67
Fort Mojave, Ariz	47	59	1,255.32	2.78	59.24			3	63.83
Plattsburgh Barracks, N. Y	46	39	847.83	.90	19.48			1	21.74
Fort Mason, Cal	46	36	782.61	1.38	30.00			1	21.74
Newport Barracks, Ky	43	25	581.40	.76	17.60	1	23.26	1	23.26
Fort Preble, Me	41	61	1,487.80	1.39	33.92			3	73.17
Fort Gaston, Cal	41	35	853.66	1.75	42.58			4	97.56
Fort McDermitt, Nev	40	26	650.00	.22	5.46			3	75.00
Fort Wood, N. Y	38	26	684.21	.22	5.68				
Watertown Arsenal, N. Y	34	35	1,029.41	.88	25.80	1	29.41	1	29.41
Frankford Arsenal, Pa	33	14	424.24	.62	18.79			1	30.30
Springfield Armory, Mass	32	30	937.50	.45	14.17				
Camp Del Rio, Tex	32	50	1,562.50	1.38	43.03				
Allegheny Arsenal, Pa	29	23	793.10	.74	25.53				
Indianapolis Arsenal, Ind	27	68	2,518.52	1.44	53.23				
Augusta Arsenal, Ga	27	15	555.56	.37	13.86				
Fort Selden, N. Mex	25	20	800.00	.72	28.74				
Camp Langtry, Tex	22	10	454.55	.27	12.17				
Kennebec Arsenal, Me	18	68	3,777.78	.38	21.10				
Summary	3,463	4,058	1,171.82	121.66	35.13	28	8.09	91	26.25

GROUP VI.—Attending surgeons (thirteen irregular commands). All below 50 men (except that of Washington, D. C., 219.) Average, 42.

Washington, D. C	219	159	726.03	2.72	12.43	4	18.26		
New York City, N. Y	45								
San Francisco, Cal	38	10	263.16	.26	67.59	1	26.32		
Chicago, Ill	37	12	324.32	.32	8.64			1	27.03
St. Paul, Minn	37	1	27.03	.11	3.03			1	27.03
Leavenworth, Kans	36	6	166.67	.14	3.95				
Omaha, Nebr	32	3	93.75	.03	.94				
San Antonio, Tex	31	7	225.81	2.46	79.41				
Los Angeles, Cal	27	1	37.04	.04	16.19				
Philadelphia, Pa	18								
Baltimore, Md	16								
New Orleans, La	4	1	250.00	.07	17.76				
Helena, Mont	2								
Summary	542	200	369.00	6.16	11.35	5	9.23	2	3.69

GROUP VII.—Field.

Great Plains	523	552	1,055.45	6.60	12.62			1	1.91
Cordilleras	154	152	987.01	2.11	13.71				
Prairies	148	129	877.55	1.60	10.85				
Pacific coast	92	184	2,021.74	4.35	47.25	3	32.61	16	173.91
Atlantic coast	31	77	2,483.87	.83	26.62				
Eastern timbered plains and hills	10	9	900.00	.06	5.74				
Gulf coast	8	8	1,000.00	.16	20.15				
Northern Lakes	5								
Summary	971	1,111	1,143.15	15.70	16.18	3	3.09	17	17.51
Hot Springs, Ark	29	8		26.31	910.12			10	
At large						9		33	
Total for the Army	24,726	31,420	1,270.73	1,036.26	41.91	218	8.15	7.42	27.75

TABLE III.—*Showing the ratios per 1,000 of mean strength, of admissions to sick report, deaths, discharges, and constant non-effectiveness.*

WHITE TROOPS.

[Mean strength, 22,310.]

Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	3.50	.50	.04	.46
Other specific contagious and infectious diseases, including erysipelas	21.87	.29	.....	.77
Malarial fevers and resulting conditions	119.00	.29	.17	3.13
Typho-malarial fever	.27	.04	.....	.02
Diarrhœa, including cholera morbus	107.66	.08	.25	1.19
Dysentery	8.52	.08	.21	.42
Other miasmatic diseases	.27	.04	.....	.01
Gonorrhœa and results	52.77	.....	.29	1.82
Syphilis and results	22.32	.04	2.95	1.91
Other venereal diseases	22.99	.....	.25	1.45
Vaccina	21.11	.....	.....	.69
Other enthetic diseases	2.60	.....	.....	.08
Alcoholism	43.97	.33	.12	.44
Other dietic diseases	2.02	.....	.21	.10
Rheumatism (including muscular)	81.94	.04	2.53	4.47
Other constitutional diseases	4.57	.21	.50	.26
Developmental diseases	.54	.....	1.00	.05
Parasitic diseases	4.62	.....	.....	.08
Headache and neuralgia	48.01	.....	.29	.86
Other diseases of the nervous system	13.13	.25	3.24	1.10
Diseases of the eye	21.25	.....	1.08	.85
Diseases of the ear	8.20	.....	.37	.39
Catarrhs and common colds	21.16	.....	.....	.24
Bronchitis	79.87	.04	.66	1.77
Pneumonia	6.10	1.04	.29	.62
Pulmonary phthisis	3.18	.37	1.66	.69
Pleuritis	2.69	.....	.08	.19
Other diseases of the respiratory system	4.84	.12	.21	.21
Diseases of the heart and valves	6.14	.46	1.78	.51
Other diseases of the circulatory system	2.06	.21	.79	.18
Tonsilitis	42.36	.....	.....	.71
Dyspepsia, colic, and constipation	52.13	.....	.04	.72
Other diseases of the digestive system	70.54	.91	1.70	1.93
Diseases of the kidneys	1.93	.17	.17	.26
Other diseases of the genito-urinary system (non-venereal)	14.66	.....	1.04	.85
Diseases of the locomotor system (excluding muscular rheumatism)	9.23	.....	1.62	.73
Diseases of the integumentary system	78.89	.04	.37	2.19
All other diseases	26.18	.04	.50	1.02
Heat stroke	2.87	.04	.....	.07
Frost-bite and general freezing	3.32	.04	.12	.16
Contusions and sprains	128.28	.....	.46	3.40
Dislocations	2.95	.....	.21	.23
Fractures (not gunshot)	6.14	.04	.62	1.00
Incised, lacerated, contused, and punctured wounds	48.05	.12	.17	1.54
Shot wounds	3.72	.54	.79	.64
All other injuries	41.28	1.16	.91	1.19
Total for disease	1,013.09	5.60	24.39	33.38
Total for injuries	236.62	1.95	3.28	8.24
Total for all causes	1,249.71	7.55	27.67	41.62

COLORED TROOPS.

[Mean strength, 2,416.]

Enteric fever	1.24	.38	.....	.26
Other specific contagious and infectious diseases, including erysipelas	28.56	.....	.....	1.39
Malarial fevers and resulting conditions	110.93	.76	.38	3.04
Diarrhœa, including cholera morbus	82.37	.....	.....	.83
Dysentery	17.38	.76	.38	.74
Gonorrhœa and results	45.53	.....	.....	1.86
Syphilis and results	21.52	.....	4.55	2.04
Other venereal diseases	31.46	.....	.....	1.94
Vaccina	30.22	.....	.....	1.02
Other enthetic diseases	3.73	.....	.....	.18
Alcoholism	4.55	.....	.....	.03
Rheumatism (including muscular)	124.59	.....	3.03	4.65

TABLE III.—*Showing the ratios per* 1,000 *of mean strength, of admissions to sick report, deaths, discharges, and constant non-effectiveness*—Continued.

COLORED TROOPS—Continued.

Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Other constitutional diseases	6.21		.76	.37
Developmental diseases			.38	
Parasitic diseases	.83			.002
Headache and neuralgia	64.57			.75
Other diseases of the nervous system	8.28	.76	2.28	.32
Diseases of the eye	21.52		.76	1.19
Diseases of the ear	4.55		.76	.19
Catarrhs and common colds	42.63			.35
Bronchitis	95.20			1.67
Pneumonia	18.63	5.31	.38	1.40
Pulmonary phthisis	6.62	1.14	1.90	1.23
Pleuritis	5.79			.22
Other diseases of the respiratory system	8.69	.38	.38	.31
Diseases of the heart and valves	9.93	.38	1.90	.72
Other diseases of the circulatory system	.83		.76	.27
Tonsilitis	65.40			.88
Dyspepsia, colic, and constipation	70.78		.38	.83
Other diseases of the digestive system	110.93	.38	1.14	2.29
Diseases of the kidneys	5.38	.38	.38	.21
Other diseases of the genito-urinary system (non-venereal)	24.83		1.14	1.16
Diseases of the locomotor system (excluding muscular rheumatism)	12.42		1.90	.86
Diseases of the integumentary system	53.39			1.35
All other diseases	24.83			.53
Heat stroke	.83			.005
Frost bite and general freezing	27.32		.76	1.02
Contusions and sprains	151.08		.38	4.07
Dislocations	2.07			.13
Fractures (not gunshot)	6.21			.50
Incised, lacerated, contused, and punctured wounds	73.26		.38	2.29
Shot wounds	5.38	2.28	1.52	.86
All other injuries	34.35	.76	1.90	.60
Total for disease	1,164.32	10.62	23.52	35.09
Total for injuries	300.50	3.04	4.93	9.47
Total for all causes	1,464.82	13.66	28.45	44.56

TOTAL WHITE AND COLORED.

[Mean strength, 24,726.]

Enteric fever	3.28	.49	.04	.44
Other specific contagious and infectious diseases, including erysipelas	22.53	.26		.83
Malarial fevers and resulting conditions	118.22	.34	.19	3.12
Typho-malarial fever	.24	.04		.02
Diarrhœa, including cholera morbus	105.19	.07	.22	1.16
Dysentery	9.38	.15	.22	.45
Other miasmatic diseases	.24	.04		.01
Gonorrhœa and results	34.01		.26	1.82
Syphilis and results	22.24	.04	3.10	1.92
Other venereal diseases	23.82		.22	1.50
Vaccina	22.00			.73
Other enthetic diseases	2.71			.09
Alcoholism	40.12	.30	.11	.40
Other dietic diseases	1.82		.19	.09
Rheumatism (including muscular)	86.10	.04	2.58	4.49
Other constitutional diseases	4.73	.19	.52	.27
Developmental diseases	.49		.93	.05
Parasitic diseases	4.25			.07
Headache and neuralgia	49.62		.26	.85
Other diseases of the nervous system	12.66	.30	3.14	1.02
Diseases of the eye	21.27		1.05	.89
Diseases of the ear	7.85		.41	.37
Catarrhs and common colds	23.25			.25
Bronchitis	81.37	.04	.60	1.76
Pneumonia	7.32	1.46	.30	.70
Pulmonary phthisis	3.52	.45	1.68	.74
Pleuritis	2.99		.07	.19
Other diseases of the respiratory system	5.22	.15	.22	.22
Diseases of the heart and valves	6.51	.45	1.80	.53
Other diseases of the circulatory system	1.94	.19	.79	.19

TABLE III.—*Showing the ratios per* 1,000 *of mean strength, of admissions to sick report, deaths, discharges, and constant non-effectiveness*—Continued.

TOTAL WHITE AND COLORED—Continued.

Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Tonsilitis	44.61	.....	.....	.72
Dyspepsia, colic, and constipation	53.95	.....	.07	.73
Other diseases of the digestive system	74.50	.86	1.65	1.97
Diseases of the kidneys	2.26	.19	.19	.25
Other diseases of the genito-urinary system (non-venereal)	15.65	.....	1.05	.88
Diseases of the locomotor system (excluding muscular rheumatism)	9.54	.....	1.65	.74
Diseases of the integumentary system	76.40	.04	.34	2.11
All other diseases	26.05	.04	.45	.97
Heat stroke	2.67	.04	.....	.06
Frost-bite and general freezing	5.66	.04	.19	.25
Contusions and sprains	130.51	.....	.45	3.47
Dislocations	2.87	.....	.19	.22
Fractures (not gunshot)	6.15	.04	.56	.94
Incised, lacerated, contused, and punctured wounds	50.51	.11	.19	1.62
Shot wounds	3.88	.71	.86	.66
All other injuries	40.61	1.12	1.01	1.13
Total for disease	1,027.87	6.09	24.31	33.55
Total for injuries	242.86	2.06	3.44	8.36
Total for all causes	1,270.73	8.15	27.75	41.91

TABLE IV.—*Showing the ratios per* 1,000 *of mean strength, of admissions, non-effectiveness, discharges, and deaths during the year—the causes arranged in the order of their importance as factors of non-effectiveness.*

WHITE TROOPS.

Classified causes.	Ratios per 1,000 of mean strength of— Men constantly non effective.	Admissions to sick report.	Deaths.	Discharges.	Average number of days each case was treated.
Injuries	8.24	236.62	1.95	3.28	12.7
Venereal diseases	5.18	78.08	.04	3.48	24.3
Diseases of the respiratory system	3.73	117.84	1.58	2.90	11.6
Diseases of the digestive system	3.36	165.04	.91	1.74	7.5
Malarial diseases	3.13	119.00	.29	.17	9.6
Constitutional diseases	2.88	34.51	.25	1.95	30.5
Diseases of the locomotor system	2.58	61.23	.....	2.70	15.4
Diseases of the integumentary system	2.19	78.89	.04	.37	10.2
Diseases of the nervous system	1.96	61.14	.25	3.53	11.7
Diarrhœal diseases	1.61	116.18	.17	.46	5.1
Diseases of the genito-urinary system	1.11	16.58	.17	1.20	24.5
Specific febrile and acute infectious diseases	1.06	21.56	.58	.04	17.9
Diseases of the eye	.85	21.25	.....	1.08	14.7
Zoögenous diseases	.77	23.71	.....	.....	11.9
Diseases of the circulatory system	.69	8.20	.66	2.57	30.8
Dietic diseases	.54	45.99	.33	.33	4.3
Diseases of the lymphatic system	.52	6.81	.....	.04	28.0
Diseases of the ear	.39	8.20	.....	.37	17.5
Septic diseases	.19	4.08	.25	.....	16.6
Diseases of the nose	.12	1.75	.....	.17	24.1
Parasitic diseases	.08	4.62	.....	.....	6.2
Developmental diseases	.06	.54	.....	1.00	35.5
Typho-malarial fever	.02	.27	.04	.....	25.3
Unclassified	.38	17.62	.04	.29	7.9
Total	41.62	1,249.71	7.55	27.67	12.2

TABLE IV.—*Showing the ratio per* 1,000 *of mean strength, of admissions, non-effectiveness, discharges, and deaths during the year, etc.*—Continued.

COLORED TROOPS.

Classsified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admission to sick report.	Deaths.	Discharges.	
Injuries	9.47	300.50	3.04	4.93	11.5
Venereal diseases	5.84	98.51	.....	4.55	21.7
Diseases of the respiratory system	5.18	177.57	6.83	2.66	10.7
Diseases of the digestive system	4.00	247.10	.38	1.52	5.9
Malarial diseases	3.04	110.93	.76	.38	10.0
Constitutional diseases	3.04	62.09	.....	2.66	17.9
Diseases of the locomotor system	2.85	81.13	.....	3.03	12.9
Diarrhœal diseases	1.57	99.75	.76	.38	5.8
Specific febrile and acute infectious diseases	1.53	26.90	.38	.....	20.8
Diseases of the genito-urinary system	1.36	30.21	.38	1.52	16.5
Diseases of the integumentary system	1.35	53.39	.....	.....	9.2
Zoögenous diseases	1.20	33.94	.....	.....	12.9
Diseases of the eye	1.19	21.52	.....	.76	20.3
Diseases of the nervous system	1.07	72.85	.76	2.28	5.4
Diseases of the circulatory system	.99	10.76	.38	2.66	33.7
Diseases of the lymphatic system	.30	7.04	.....	.....	15.7
Diseases of the ear	.19	4.55	.....	.....	15.5
Septic diseases	.12	2.90	.....	.....	15.3
Dietic diseases	.03	4.55	.....	.76	2.3
Diseases of the nose	.003	.41	.....	.....	3.0
Parasitic diseases	.002	.83	.....	.....	1.0
Developmental diseases	.....	.....	.....	.38	.....
Unclassified	.23	17.38	.....	.....	4.8
Total	44.56	1,464.82	13.66	28.45	11.1

TOTAL WHITE AND COLORED.

Injuries	8.36	242.86	2.06	3.44	12.6
Venereal diseases	5.24	80.08	.04	3.59	24.0
Diseases of the respiratory system	3.87	123.68	2.09	2.88	11.4
Diseases of the digestive system	3.42	173.06	.86	1.72	7.2
Malarial diseases	3.12	118.22	.34	.19	9.7
Constitutional diseases	2.89	37.21	.22	2.02	28.5
Diseases of the locomotor system	2.61	63.17	.....	2.73	15.1
Diseases of the integumentary system	2.11	76.40	.04	.34	10.1
Diseases of the nervous system	1.87	62.28	.30	3.40	11.0
Diarrhœal diseases	1.61	114.58	.22	.45	5.1
Diseases or the genito-urinary system	1.14	17.92	.19	1.23	23.2
Specific febrile and acute infectious diseases	1.10	22.08	.56	.04	18.3
Diseases of the eye	.89	21.27	.....	1.05	15.2
Zoögenous diseases	.81	24.71	.....	.....	12.1
Diseases of the circulatory system	.72	8.45	.64	2.58	31.2
Diseases of the lymphatic system	.50	6.83	.....	.04	26.8
Dietic diseases	.49	41.94	.30	.30	4.2
Diseases of the ear	.37	7.85	.....	.41	17.4
Septic diseases	.18	3.96	.22	.....	16.6
Diseases of the nose	.10	1.62	.....	.15	23.6
Parasitic diseases	.07	4.25	.....	.....	6.1
Developmental diseases	.05	.49	.....	.93	35.5
Typho-malarial fever	.02	.24	.04	.....	25.3
Unclassified	.37	17.59	.04	.26	7.6
Total	41.91	1,270.73	8.15	27.75	12.1

TABLE V.—*A comparison of the rates of admissions, discharges, and deaths during the year with those of the U. S. Army in previous years and of certain foreign armies.*

Disease.	United States, 1887.			United States, 1888.			United States, 1877–1886.				
							Mean strength as per returns of Medical Dep't.		Mean strength as per returns of Adj. Gen.	
	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.	Deaths.	Discharges.
Specific febrile, etc., diseases	21.94	.68	.....	22.08	.56	.04	18.26	.99	.05	.92	.04
Malarial diseases	102.60	.34	.08	118.22	.34	.19	184.00	.29	.11	.27	.10
Typho-malarial fever	.63	.15	.....	.24	.04	.....	2.67	.39	.004	.36	.004
Diarrhœal diseases	138.71	.30	.42	114.58	.22	.45	204.90	.38	.58	.36	.54
Septic diseases	2.22	.19	.04	3.96	.22	.....	3.06	.08	.004	.07	.004
Venereal diseases	74.37	.....	3.94	80.08	.04	3.59	82.94	.04	4.25	.04	3.94
Zoögenous diseases	25.08	.....	.....	24.71	.....	.....	.60	.004	.004	.004	.004
Dietic diseases	47.06	.15	.19	41.94	.30	.30	60.32	.20	.82	.19	.76
Constitutional diseases	88.71	.23	3.38	90.84	.22	3.10	123.32	.22	3.82	.21	3.54
Developmental diseases	.50	.04	.83	.49	.....	.93	.....	.....	.....	.....	.....
Parasitic diseases	3.27	.....	.....	4.25	.....	.....	3.11	.....	.01	.....	.01
Diseases of the nervous system	68.79	.64	4.21	62.28	.30	3.40	112.46	.60	4.23	.55	3.91
Diseases of the eye	22.78	.....	1.14	21.27	.....	1.05	24.89	.....	1.29	.....	1.19
Diseases of the ear	6.50	.....	.46	7.85	.....	.41	8.34	.01	.92	.01	.85
Diseases of the nose	1.76	.....	.15	1.62	.....	.15	.....	.....	.....	.....	.....
Diseases of the respiratory system	114.72	1.59	2.77	123.68	2.09	2.88	204.95	1.77	3.90	1.65	3.62
Diseases of the circulatory system	7.51	.64	1.71	8.45	.64	2.58	7.94	.72	2.86	.67	2.65
Diseases of the digestive system	150.87	.42	1.71	173.06	.86	1.72	188.02	.62	2.80	.58	2.60
Diseases of the lymphatic system	6.63	.....	.08	6.83	.....	.04	.....	.....	.....	.....	.....
Diseases of the genito-urinary system	17.32	.23	1.59	17.92	.19	1.23	19.46	.30	2.01	.27	1.86
Diseases of the locomotor system	5.87	.....	1.59	9.54	.....	1.65	4.88	.02	1.28	.02	1.19
Diseases of the integumentary system	79.44	.....	.19	76.40	.04	.34	106.28	.....	.48	.....	.44
All other diseases	14.68	.04	.11	17.59	.04	.26	11.66	.05	1.07	.05	.99
Injuries	244.91	2.47	2.50	242.86	2.06	3.44	243.42	4.36	4.44	4.04	4.12
Totals	1,246.88	8.12	27.08	1,270.73	8.15	27.75	1,615.49	11.04	34.90	10.23	32.36

NOTE.—Rate of admissions for the decade is exclusive of vaccina. Developmental diseases for the same period are enumerated under "All other diseases;" diseases of the nose under "respiratory" and "All other diseases," and diseases of the lymphatic system and muscular rheumatism under "Constitutional diseases."

TABLE V.—*A comparison of the rates of admissions, discharges, and deaths during the year with those of the U. S. Army in previous years, etc.*—Continued.

Diseases.	Austria-Hungary, 1887.*			Great Britain, 1886.†			Italy, 1886.‡		
	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Specific febrile, etc., diseases	9.98	1.11	.02	19.40	3.73	.005	17.38	2.70	.01
Malarial diseases	38.74	.01	.03	121.08	.30	.04	24.72	.19	.26
Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœal diseases	50.17	.06	.....	16.71	.65	.12	7.27	.02	.....
Septic diseases	3.43	.02	.001	1.99	.07	.02	4.52	.12	.....
Venereal diseases	64.39	.01	.02	254.29	.07	.37	47.64	.....	.04
Zoögenous diseases	.01	.....	.....	.07	.02	.....	.11	.005	.....
Dietic diseases	1.06	.004	.01	8.44	.13	.005	1.25	.01	.03
Constitutional diseases	20.88	.35	.44	44.15	.28	1.07	12.56	.24	1.27
Developmental diseases	.67	.....	2.70	18.27	.02	1.51	.....	.04	.13
Parasitic diseases	6.47	.....	.001	2.24	.01	.....	4.91	.....	.....
Diseases of the nervous system	7.28	.44	.47	10.85	.45	2.51	6.06	.60	1.26
Diseases of the eye	51.37	.....	1.61	17.46	.....	.69	13.71	.....	.82
Diseases of the ear	13.77	.....	1.02	9.71	.005	.53	5.73	.02	.18
Diseases of the nose	.16	.....	.02				.13	.....	.005
Diseases of the respiratory system	142.86	2.43	1.40	60.14	2.29	2.40	57.44	3.74	3.64
Diseases of the circulatory system	10.72	.13	1.10	10.89	.49	2.64	1.07	.15	1.12
Diseases of the digestive system	164.65	.26	1.97	127.96	1.01	.88	37.25	.52	2.68
Diseases of the lymphatic system	8.11	.01	.02	23.00	.005	.10	7.63	.01	.08
Diseases of the genito-urinary system	15.41	.15	.41	61.66	.19	.40	7.02	.09	.31
Diseases of locomotor system	45.40	.08	1.59	6.10	.04	.74	8.09	.08	.82
Diseases of the integumentary system	212.64	.01	.38	105.17	.01	.19	18.58	.09	.32
All other diseases	17.60	.01	.....	58.71	.06	.03	55.67	.12	.....
Injuries	137.58	1.87	.90	106.80	1.67	.80	14.35	.54	.31
Total	1,023.36	6.95	14.10	1,085.05	11.48	15.03	353.06	9.31	13.29

* Admissions given under "lymphatic system" include only cases treated in hospital. Those treated in quarters for lymphatic diseases are included under "circulatory system."

† Nearly all admissions, deaths, and discharges enumerated under "All other diseases" are cases designated in the English report as cases of continuous fevers. They seem to range in gravity from febricula to incipient enteric fever. Scabies is included under "integumentary system," and acute and chronic diarrhœa are tabulated under "digestive system."

‡ Inclusive of cases treated in civil hospitals and quarters (diseases not stated) the admission rate is 797.89 per 1,000 of mean strength. Among the number of admissions for "All other diseases" are 6,300 cases of ephemeral and continuous fevers, and 4,583 cases under observation.

TABLE VI.—*Showing the seasonal prevalence of disease among the white and the colored troops during the year.*

Months.		Mean strength.	Admissions.			Admission rates per 1,000 of mean strength.			Constantly non-effective per 1,000 of mean strength.		
			Venereal, alcoholism, and injuries.	Other diseases.	All diseases and injuries.	Venereal, alcoholism, and injuries.	Other diseases.	All diseases and injuries.	Venereal, alcoholism, and injuries.	Other diseases.	All diseases and injuries.
Jan.	W.	22,719	745	1,890	2,635	32.79	83.19	115.98	14.73	29.19	43.92
	C.	2,389	143	297	440	59.86	124.31	184.18	26.02	35.23	61.25
	T.	25,108	888	2,187	3,075	35.37	87.10	122.47	15.80	29.77	45.57
Feb.	W.	22,888	573	1,690	2,263	25.03	73.84	98.87	13.28	29.28	42.56
	C.	2,473	68	273	341	27.50	110.39	137.89	21.54	37.29	58.83
	T.	25,361	641	1,963	2,604	25.27	77.40	102.67	14.08	30.06	44.14
Mar.	W.	22,975	683	1,755	2,438	29.73	76.38	106.11	14.11	29.75	43.86
	C.	2,538	62	278	340	24.43	109.53	133.96	11.94	38.40	50.34
	T.	25,513	745	2,033	2,778	29.20	79.68	108.88	13.89	30.61	44.50
Apr.	W.	22,775	643	1,533	2,176	28.23	67.31	95.54	13.43	27.81	41.24
	C.	2,548	69	210	279	27.08	82.42	109.50	11.35	37.30	48.65
	T.	25,323	712	1,743	2,455	28.11	68.83	96.94	13.22	28.77	41.99
May.	W.	22,618	768	1,511	2,279	33.96	66.80	100.76	13.66	26.36	40.02
	C.	2,536	77	183	260	30.36	72.16	102.52	13.51	29.12	42.63
	T.	25,154	845	1,694	2,539	33.59	67.35	100.94	13.65	26.64	40.29
June.	W.	22,077	634	1,501	2,135	28.72	67.99	96.71	13.22	25.15	38.37
	C.	2,388	73	175	248	30.57	73.28	103.85	13.60	25.22	38.82
	T.	24,465	707	1,676	2,383	28.90	68.50	97.40	13.26	25.16	38.42
July.	W.	22,002	805	1,838	2,643	36.59	83.54	120.13	14.37	26.66	41.03
	C.	2,456	90	195	285	36.64	79.40	116.04	15.02	20.86	35.88
	T.	24,458	895	2,033	2,928	36.59	83.13	119.72	14.44	26.07	40.51
Aug.	W.	21,668	649	1,804	2,453	29.95	83.26	113.21	14.44	27.27	41.71
	C.	2,265	88	217	305	38.85	95.80	134.65	16.11	25.35	41.46
	T.	23,933	737	2,021	2,758	30.80	84.45	115.25	14.60	27.09	41.69
Sept.	W.	21,477	606	1,747	2,353	28.22	81.34	109.56	13.78	28.93	42.71
	C.	2,300	70	174	244	30.43	75.65	106.08	14.36	26.26	40.62
	T.	23,777	676	1,921	2,597	28.43	80.79	109.22	13.83	28.68	42.51
Oct.	W.	21,651	651	1,584	2,235	30.07	73.16	103.23	13.27	29.67	42.94
	C.	2,344	78	164	242	33.28	69.96	103.24	13.54	22.91	36.45
	T.	23,995	729	1,748	2,477	30.38	72.84	103.22	13.30	29.01	42.31
Nov.	W.	22,157	638	1,424	2,062	28.79	64.27	93.06	14.37	26.51	40.88
	C.	2,376	75	178	253	31.56	74.92	106.48	13.16	24.84	38.00
	T.	24,533	713	1,602	2,315	29.06	65.30	94.36	14.25	26.35	40.60
Dec.	W.	22,705	632	1,577	2,209	27.84	69.45	97.29	13.92	26.26	40.18
	C.	2,389	82	220	302	34.32	92.09	126.41	14.27	26.68	40.95
	T.	25,094	714	1,797	2,511	28.45	71.61	100.06	13.95	26.30	40.25
White		22,310	8,027	19,854	27,881	359.79	889.92	1,249.71	13.88	27.74	41.62
Colored		2,416	975	2,564	3,539	403.56	1,061.26	1,464.82	15.33	29.33	44.56
Total		24,726	9,002	22,418	31,420	364.07	906.66	1,270.73	14.03	27.88	41.91

TABLE VII.—*Rates of admission, non-effectiveness, death, and discharge per* 1,000 *of strength for disease and injury, tabulated in accordance with the age of the men.*

Ages (years).	S. G. O. strength.	Rates of admission.			Rates of non-effectiveness.		
		Disease.	Injury.	Total.	Disease.	Injury.	Total.
15–19	122	1,622.95	442.62	2,065.57	33.66	13.10	46.76
20–24	5,652	1,417.02	329.26	1,746.28	44.48	10.23	54.72
25–29	8,161	975.13	261.73	1,236.86	30.86	8.51	39.37
30–34	4,282	886.97	209.71	1,096.68	28.32	7.36	35.69
35–39	2,772	847.04	180.74	1,027.78	26.47	7.27	33.74
40–44	1,940	833.51	171.13	1,004.64	28.00	6.68	34.68
45–49	1,037	862.10	143.68	1,005.79	34.81	8.55	43.36
50–54	485	824.74	115.46	940.21	45.21	5.93	51.14
55–59	180	788.89	88.89	877.78	60.52	3.73	64.25
60 and over	95	536.84	21.05	557.89	45.61	6.64	52.26
Total	24,726	1,027.87	242.86	1,270.73	33.55	8.36	41.91

Ages (years).	A. G. O. strength.	Rates of death.			Rates of discharge.		
		Disease.	Injury.	Total.	Disease.	Injury.	Total.
15–19	132	7.58	.....	7.58	15.15	7.58	22.73
20–24	6,110	5.73	2.13	7.85	32.57	4.75	37.32
25–29	8,826	4.42	2.15	6.58	22.78	4.18	26.96
30–34	4,631	3.88	2.38	6.26	19.22	2.59	21.81
35–39	2,998	6.67	1.00	7.67	16.01	1.67	17.68
40–44	2,098	9.53	2.38	11.92	24.31	1.43	25.74
45–49	1,122	13.37	1.78	15.15	32.09	3.56	35.65
50–54	524	17.18	3.81	20.99	34.35	1.91	36.26
55–59	195	15.38	.....	15.38	25.64	.....	25.64
60 and over	103	29.13	.....	29.13	9.71	.....	9.71
Total	26,739	6.09	2.06	8.15	24.31	3.44	27.75

TABLE VIII.—*Death rates and discharge rates per* 1,000 *of all admissions to sick report in each group of ages.*

Ages (years).	Death rates.			Discharge rates.		
	Disease.	Injury.	Total.	Disease.	Injury.	Total.
15–19	3.97	.....	3.97	7.94	3.97	11.90
20–24	3.55	1.32	4.86	20.16	2.94	23.10
25–29	3.86	1.88	5.75	19.91	3.67	23.58
30–34	3.83	2.34	6.18	18.95	2.56	21.51
35–39	7.02	1.05	8.07	16.85	1.76	18.60
40–44	10.26	2.57	12.83	26.17	1.54	27.71
45–49	14.38	1.92	16.30	34.52	3.84	38.35
50–54	19.74	4.39	24.12	39.47	2.19	41.67
55–59	18.99	.....	18.99	31.65	.....	31.65
60 and over	56.60	.....	56.60	18.87	.....	18.87
Total	5.19	1.75	6.94	20.69	2.93	23.62

TABLE IX.—*Rates of admission, non-effectiveness, death, and discharge per 1,000 of strength for disease and injury, tabulated in accordance with the length of service of the men.*

Length of service (years).	S. G. O. strength.	Rates of admission.			Rates of non-effectiveness.		
		Disease.	Injury.	Total.	Disease.	Injury.	Total.
Under 1	3,786	1,764.13	363.18	2,127.31	58.06	12.07	70.13
1	2,193	1,377.11	389.88	1,766.99	43.28	12.78	56.06
2	2,096	975.19	275.29	1,250.48	30.36	8.62	38.97
3	2,508	824.96	214.51	1,039.47	25.49	7.29	32.78
4	3,052	795.54	234.27	1,029.82	23.01	6.93	29.94
5	1,115	1,037.67	252.91	1,290.58	32.25	8.09	40.34
6	1,077	842.15	203.34	1,045.50	27.73	7.46	35.17
7	925	754.59	192.43	947.03	24.42	5.77	30.19
8	810	732.10	192.59	924.69	26.16	7.67	33.83
9	781	778.49	188.22	966.71	22.51	5.94	28.45
10, 11	963	769.47	151.60	921.08	23.77	5.85	29.62
12, 13, 14	1,336	772.46	164.67	937.13	22.70	6.76	29.46
15 and over	4,084	842.07	146.18	988.25	33.45	6.76	40.22
Total	24,726	1,027.87	242.86	1,270.73	33.55	8.36	41.91

Length of service (years).	A. G. O. strength.	Rates of death.			Rates of discharge.		
		Disease.	Injury.	Total.	Disease.	Injury.	Total.
Under 1	4,062	10.59	1.97	12.56	43.57	6.15	49.73
1	2,360	2.54	3.39	5.93	44.07	3.39	47.46
2	2,250	2.67	2.67	5.33	26.67	5.33	32.00
3	2,692	4.46	2.60	7.06	17.83	2.23	20.06
4	3,274	3.06	1.83	4.89	14.66	3.05	17.72
5	1,200	2.50	.83	3.33	15.83	3.33	19.17
6	1,160	4.31	2.59	6.90	12.93	5.17	18.10
7	1,000	4.00	1.00	5.00	12.00	.....	12.00
8	878	.....	2.28	2.28	26.20	4.56	30.75
9	842	4.75	2.38	7.13	21.38	9.50	30.88
10, 11	1,049	3.81	.....	3.81	6.67	.....	6.67
12, 13, 14	1,452	2.75	1.38	4.13	13.09	.69	13.77
15 and over	4,520	13.72	1.99	15.71	22.12	1.77	23.89
Total	26,739	6.09	2.06	8.15	24.31	3.44	27.75

TABLE X.—*Death and discharge rates per* 1,000 *of all admissions to sick report, tabulated in accordance with length of service.*

Length of service (years).	Death rates.			Discharge rates.		
	Disease.	Injury.	Total.	Disease.	Injury.	Total.
Under 1	5.34	.99	6.33	21.98	3.11	25.08
1	1.55	2.06	3.61	26.84	2.06	28.90
2	2.29	2.29	4.58	22.89	4.58	27.47
3	4.60	2.69	7.29	18.41	2.30	20.71
4	3.18	1.91	5.09	15.27	3.18	18.45
5	2.08	.69	2.77	13.20	2.77	15.98
6	4.44	2.66	7.10	13.32	5.33	18.65
7	4.57	1.14	5.71	13.70	.....	13.70
8	.....	2.67	2.67	30.71	5.34	36.05
9	5.30	2.65	7.95	23.84	10.60	34.44
10, 11	4.51	.....	4.51	7.89	.....	7.89
12, 13, 14	3.19	1.60	4.79	15.18	.80	15.97
15 and over	15.36	2.23	17.59	24.78	1.98	26.76
Total	5.19	1.75	6.94	20.69	2.93	23.62

TABLE XI.—*Meteorological data for* 1888.

Regions and their groups.	Temperature (degrees Fahrenheit).				Relative humidity.	Rainfall, inches.
	Maximum.	Minimum.	Daily range.	Annual.		
Atlantic coast	92	11	14	56.0	79	50.00
Eastern timbered plains and hills	99	11	18	56.7	72	51.06
Appalachian Mountains	95	— 3	18	50.4	75	47.67
Northern Lakes	93	—16	16	43.3	76	29.19
Central timbered plains and hills	98	3	18	56.9	72	45.99
Gulf coast	94	24	13	68.4	81	58.62
Prairies:						
Northern group	98	—39	22	38.9	74	20.19
Middle group	98	—23	20	48.1	74	34.62
Southern group	102	0	21	62.1	75	35.62
Great plains:						
Northern group	100	—43	24	41.5	65	16.26
Middle group	103	—22	27	47.6	57	18.07
Southern group	100	9	23	62.9	56	18.06
Cordilleras:						
Northern group	101	—32	23	47.6	59	13.16
Middle group	97	—19	26	50.8	51	8.37
Southern group	101	16	31	61.7	50	11.55
Pacific coast:						
Northern group	86	3	15	51.0	81	47.86
Southern group	98	24	19	59.9	72	20.61

TABLE XII.—*Showing for each region the various military stations established in it, with their rates of admission, non-effectiveness, discharge, and death, and the classified causes among which these rates were distributed in each region as a whole.*

REGION OF THE ATLANTIC COAST.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Preble, Me	41	48	13	61	1,487.80	1.39	33.92	3	....
Fort Warren, Mass	78	72	29	101	1,294.87	3.93	50.37	.....	.....
Watertown Arsenal, Mass	34	31	4	35	1,029.41	.88	25.80	1	1
Fort Adams, R. I	229	180	60	240	1,048.03	6.88	30.04	1	4
Fort Trumbull, Conn	72	37	17	54	750.00	1.46	20.30	.....	2
Fort Columbus, N. Y	152	105	18	123	809.21	5.19	34.14	.....	.....
Fort Schuyler, N. Y	71	89	11	100	1,408.45	1.78	25.09	2	....
Fort Hamilton, N. Y	196	185	32	217	1,107.14	5.70	29.11	4	1
Fort Wadsworth, N. Y	60	33	8	41	683.33	1.20	20.08	2	....
Fort Wood, N. Y	38	24	2	26	684.21	.22	5.68	.....	.....
David's Island, N. Y	634	865	107	972	1,533.12	29.15	45.98	9	11
Willet's Point, N. Y	357	669	132	801	2,243.70	21.99	61.59	12	3
New York City, N. Y	45	.....	.....	.....	.....	.....	.....	.....	.....
Fort Monroe, Va	281	372	54	426	1,516.01	13.55	48.24	6	3
St. Francis Barracks, Fla	66	82	9	91	1,378.79	2.28	34.57	3	1
Field	31	76	1	77	2,483.87	83	26.62	.....	.....
Total	2,385	2,868	497	3,365	1,410.90	96.43	40.43	43	26

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	7.11	208.39	1.68	.42	12.5
Diseases of the respiratory system	4.74	158.07	4.61	2.52	11.0
Venereal diseases	3.97	75.38	.....	1.26	19.8
Diseases of the locomotary system	3.12	88.47	.....	2.52	12.9
Diseases of the digestive system	3.02	192.45	1.26	2.10	5.7
Malarial diseases	2.84	109.85	.42	.....	9.5
Diseases of the integumentary system	2.24	79.25	.....	.....	10.3
Constitutional diseases	1.81	31.87	.42	2.10	20.8
Zoögenous diseases	1.68	81.34	.....	.....	7.5
Diseases of the nervous system	1.67	64.15	.....	1.68	9.5
Diarrhœal diseases	1.40	134.17	.....	.....	3.8
Specific febrile and acute infectious diseases	1.38	25.48	1.26	.42	21.6
Diseases of the circulatory system	1.10	9.64	.84	1.68	41.7
Diseases of the genito-urinary system	1.04	19.71	.....	1.68	19.4
Diseases of the eye	.65	19.71	.....	.84	12.1
Diseases of the ear	.53	10.90	.....	.....	17.7
Dietic diseases	.51	63.73	.....	.....	2.9
Diseases of the lymphatic system	.49	3.77	.....	.....	47.8
Septic diseases	.30	6.29	.42	.....	17.2
Diseases of the nose	.19	3.35	.....	.....	20.9
Parasitic diseases	.19	11.32	.....	.....	6.1
Developmental diseases	.06	.84	.....	.42	24.5
Unclassified	.40	16.77	.....	.42	8.7
Total	40.43	1,410.90	10.90	18.03	10.5

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE EASTERN TIMBERED PLAINS AND HILLS.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Kennebec Arsenal, Me	18	58	10	68	3,777.78	.38	21.10	.....	.....
Springfield Armory, Mass	32	25	5	30	937.50	.45	14.17	.....	.....
West Point, N. Y	340	325	60	385	1,132.35	7.48	22.00	6	4
Frankford Arsenal, Pa	33	11	3	14	424.24	.62	18.79	1	.....
Philadelphia, Pa	18	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore, Md. (attending surgeon)	16	.....	.....	.....	.....	.....	.....	.....	.....
Fort McHenry, Md	113	148	11	159	1,407.08	7.12	62.99	3	1
Washington Barracks, D. C	264	406	49	455	1,723.48	12.72	48.20	6	.....
Fort Myer, Va	138	142	50	192	1,391.30	4.79	34.71	7	.....
Washington, D. C. (attending surgeon)	219	151	8	159	726.03	2.72	12.43	.....	4
Augusta Arsenal, Ga	27	14	1	15	555.56	.37	13.86	.....	.....
Field	10	8	1	9	900.00	.06	5.74	.....	.....
Total	1,228	1,288	198	1,486	1,210.10	36.72	29.90	23	9

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	4.61	161.24	.81	3.26	10.5
Venereal diseases	4.10	64.33	.....	1.63	23.3
Diseases of the respiratory system	3.58	196.25	2.44	1.63	6.7
Diseases of the digestive system	3.51	157.98	1.63	1.63	8.1
Malarial diseases	2.93	161.24	.....	.....	6.6
Constitutional diseases	1.44	38.27	.....	.....	13.7
Diseases of the circulatory system	1.32	9.77	.81	4.07	49.4
Diseases of the nervous system	1.26	62.70	.....	.81	7.4
Diarrheal diseases	1.22	127.85	.81	.....	3.5
Diseases of the eye	1.13	30.94	.....	.81	13.3
Diseases of the genito-urinary system	.99	21.99	.81	1.63	16.4
Diseases of the locomotor system	.95	42.35	.....	1.63	8.2
Diseases of the integumentary system	.87	57.82	.....	.....	5.5
Specific febrile and acute infectious diseases	.62	21.17	.....	.....	10.7
Dietic diseases	.39	29.32	.....	.....	4.9
Diseases of the lymphatic system	.31	3.26	.....	.....	34.5
Zoögenous diseases	.16	6.51	.....	.....	8.9
Diseases of the ear	.13	7.33	.....	.81	6.6
Parasitic diseases	.08	1.63	.....	.....	17.0
Septic diseases	.02	.81	.....	.....	7.0
Developmental diseases	.....	.....	.....	.81	.....
Unclassified	.29	7.33	.....	.....	14.7
Total	29.90	1,210.10	7.33	18.73	9.0

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE APPALACHIAN MOUNTAINS.

Names of stations.	Mean strength (corrected for time)	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Watervliet Arsenal, N. Y	54	23	10	33	611.11	1.90	35.27	1	....
Allegheny Arsenal, Pa	29	16	7	23	793.10	.74	25.53	....	....
Camp Monte Sano, Ala	54	80	17	97	1,796.30	4.26	78.88	....	....
Total	137	119	34	153	1,116.79	6.90	50.40	1	....

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Malarial diseases	12.52	233.58	....	....	19.6
Injuries	11.19	248.18	....	....	16.5
Diseases of the digestive system	8.81	94.89	....	7.30	34.0
Diarrhœal diseases	3.41	226.28	....	....	5.5
Constitutional diseases	2.57	21.90	....	....	43.0
Diseases of the respiratory system	2.37	80.29	....	....	10.8
Venereal diseases	2.31	36.50	....	....	23.2
Diseases of the genito-urinary system	2.31	14.60	....	....	58.0
Diseases of the circulatory system	2.17	14.60	....	....	54.5
Diseases of the locomotor system	.94	29.20	....	....	11.7
Diseases of the nervous system	.86	51.09	....	....	6.1
Diseases of the integumentary system	.50	29.20	....	....	6.2
Parasitic diseases	.16	7.30	....	....	8.0
Dietic diseases	.14	21.90	....	....	2.3
Specific febrile and acute infectious diseases	.06	....	....	....	....
Unclassified	.06	7.30	....	....	1.3
Total	50.40	1,116.79	....	7.30	16.5

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE NORTHERN LAKES.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Brady, Mich	75	87	29	116	1,546.67	2.08	27.76	.....	.....
Fort Mackinac, Mich	80	80	26	106	1,325.00	2.07	25.92	2	.....
Fort Wayne, Mich	179	180	50	230	1,284.92	7.04	39.35	.....	2
St. Paul, Minn	37	1	.....	1	27.03	.11	3.03	1	.....
Fort Snelling, Minn	299	178	77	255	852.84	9.98	33.39	10	3
Plattsburgh Barracks, N. Y	46	33	6	39	847.83	.90	19.48	1	.....
Madison Barracks, N. Y	230	240	64	304	1,321.74	8.40	36.51	1	3
Fort Ontario, N. Y	48	58	9	67	1,395.83	2.07	43.20	.....	.....
Fort Niagara, N. Y	92	45	9	54	586.96	2.25	24.44	3	.....
Fort Porter, N. Y	77	63	10	73	948.05	3.11	40.34	4	.....
Fort Sheridan (Camp Highwood), Ill	98	65	20	85	867.35	2.36	24.12	1	.....
Chicago, Ill	37	12	.....	12	324.32	.32	8.64	1	.....
Field	5	.....	.....	.....	.....	.....	.....	.....	.....
Total	1,303	1,042	300	1,342	1,029.93	40.70	31.24	24	8

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	6.72	230.24	3.07	3.84	10.7
Venereal diseases	3.75	75.21	.....	1.53	18.2
Diseases of the respiratory system	2.61	125.86	.....	1.53	7.6
Diseases of the locomotor system	2.34	50.65	.....	.77	17.1
Diseases of the digestive system	2.25	132.00	.....	1.53	6.2
Diseases of the nervous system	2.01	49.88	.77	2.30	14.7
Diseases of the integumentary system	1.52	64.47	.....	.77	8.6
Specific febrile and acute infectious diseases	1.50	25.33	.77	.....	21.6
Constitutional diseases	1.26	19.19	.....	.....	24.1
Diarrhœal diseases	1.18	92.86	.....	.....	4.7
Diseases of the eye	1.14	22.26	.....	.....	18.8
Diseases of the genito-urinary system	1.08	14.58	....	.77	27.0
Diseases of the circulatory system	.87	9.21	.77	4.60	34.6
Malarial diseases	.65	26.86	.....	.....	8.8
Diseases of the lymphatic system	.61	7.67	.....	.....	29.3
Dietic diseases	.55	49.12	.77	.....	4.1
Zoögenous diseases	.42	11.51	.....	.....	13.2
Diseases of the ear	.40	3.84	.....	.....	38.4
Septic diseases	.16	6.14	.....	.....	9.6
Parasitic diseases	.03	2.30	.....	.....	5.0
Diseases of the nose	.....	*.77	.....	.....	.....
Developmental diseases	.....	.....	.....	.77	.....
Unclassified	.19	9.98	.....	.....	6.9
Total	31.24	1,029.93	6.14	18.42	11.1

* Under treatment, but not excused from duty.

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE CENTRAL TIMBERED PLAINS AND HILLS.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Columbus Barracks, Ohio	489	944	71	1,015	2,075.66	40.04	81.87	14	3
Newport Barracks, Ky	43	24	1	25	581.40	.76	17.60	1	1
Indianapolis Arsenal, Ind	27	63	5	68	2,518.52	1.44	53.23	.....	.....
Jefferson Barracks, Mo	701	1,185	182	1,367	1,950.07	55.88	79.71	31	19
Little Rock Barracks, Ark	107	134	23	157	1,467.29	5.36	50.07	5	.....
Mount Vernon Barracks, Ala	76	89	15	104	1,368.42	2.87	37.82	2	1
Total	1,443	2,439	297	2,736	1,896.05	106.34	73.69	53	24

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Venereal diseases	13.84	212.75	.....	6.24	23.8
Malarial diseases	9.44	315.32	.69	2.77	11.0
Injuries	8.74	205.82	2.77	4.16	15.5
Zoögenous diseases (vaccina 7.52)	7.56	137.91	.....	.....	20.1
Diseases of the respiratory system	6.56	164.93	11.78	7.62	14.6
Specific febrile and acute infectious diseases	4.35	90.78	.69	.....	17.5
Diseases of the digestive system	4.26	199.58	.69	.69	7.8
Diseases of the locomotor system	3.21	72.77	.....	4.16	16.1
Constitutional diseases	3.08	28.41	.....	2.08	39.7
Diseases of the integumentary system	3.01	108.11	.....	.69	10.1
Diarrhœal diseases	2.81	151.77	.....	.69	6.8
Diseases of the nervous system	1.27	59.60	.....	3.47	7.8
Diseases of the genito-urinary system	1.18	25.64	.....	.69	16.9
Diseases of the eye	1.14	25.64	.....	.69	16.3
Diseases of the lymphatic system	.80	11.78	.....	.....	24.8
Diseases of the ear	.63	15.94	.....	.69	14.5
Parasitic diseases	.48	16.63	.....	.....	10.5
Diseases of the circulatory system	.36	3.47	.....	2.08	37.8
Septic diseases	.33	6.24	.....	.....	19.6
Dietic diseases	.27	21.48	.....	.....	4.5
Diseases of the nose	.12	2.77	.....	.....	16.0
Typho-malarial fever	.06	1.39	.....	.....	16.5
Unclassified	.20	17.33	.....	.....	4.2
Total	73.69	1,896.05	16.63	36.73	14.2

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE GULF COAST.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Barrancas, Fla	55	50	11	61	1,109.09	1.87	33.98	3	3
Jackson Barracks, La	67	50	11	61	910.45	1.19	17.78	.....	1
New Orleans, La	4	1	.....	1	250.00	.07	17.76	...	....
Fort Brown, Tex	144	463	86	549	3,812.50	13.89	96.48	15	1
Field	8	5	3	8	1,000.00	.16	20.15	.....	....
Total	278	569	111	680	2,446.04	17.19	61.82	18	5

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Malarial diseases	15.82	1,086.33	3.60	.....	5.3
Venereal diseases	13.06	143.88	... .	25.18	33.2
Injuries	9.33	399.28	7.19	3.60	8.5
Diseases of the integumentary system	4.98	183.45	.....	.....	9.9
Diseases of the respiratory system	3.23	75.54	.....	17.99	15.7
Constitutional diseases	3.00	43.17	.....	7.19	25.4
Diseases of the locomotor system	2.88	64.75	.....	3.60	16.3
Diseases of the genito-urinary system	2.28	35.97	.....	3.60	23.2
Diseases of the digestive system	2.12	165.47	.....	.....	4.7
Diarrhœal diseases	1.25	86.33	.....	.....	5.3
Diseases of the eye	.74	17.99	.....	.....	15.0
Dietic diseases	.68	68.35	.....	.....	3.6
Diseases of the lymphatic system	.65	14.39	.....	.....	16.5
Specific febrile and acute infectious diseases	.42	14.39	3.60	.....	10.7
Diseases of the nervous system	.37	39.57	... .	.....	3.5
Diseases of the circulatory system	.29	.....	3.60	.....	.....
Diseases of the ear	.10	3.60	.....	.....	10.0
Zoögenous diseases	.03	3.60	.....	.....	3.0
Developmental diseases	.....	.....	.....	3.60	.....
Unclassified	.59	.....	.....	.....	.....
Total	61.82	2,446.04	17.99	64.75	9.2

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE PRAIRIES—NORTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Pembina, Dak	84	66	16	82	976.19	1.95	23.16	2	....
Fort Totten, Dak	88	51	16	67	761.36	3.39	38.50	3	....
Fort Sisseton, Dak	66	42	11	53	803.03	1.61	24.38	2	....
Fort Buford, Dak	309	281	92	373	1,207.12	13.13	42.50	9	....
Fort A. Lincoln, Dak	112	94	44	138	1,232.14	3.92	35.01	.....	....
Fort Yates, Dak	266	254	55	309	1,161.65	10.92	41.05	8	1
Fort Bennett, Dak	48	41	11	52	1,083.33	1.07	22.31	2	....
Fort Sully, Dak	175	146	56	202	1,154.29	4.90	28.01	6	2
Fort Randall, Dak	176	143	53	196	1,113.64	7.57	43.02	4	....
Field	2	3	.....	3	1,500.00	.04	17.76	.....	....
Total	1,326	1,121	354	1,475	1,112.37	48.49	36.57	36	3

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges.	
Injuries	8.68	266.97	.....	2.26	11.9
Diseases of the respiratory system	3.93	118.40	.75	1.51	12.2
Diseases of the locomotor system	3.45	61.84	.....	5.28	20.4
Diseases of the digestive system	3.23	178.73	.75	.....	6.6
Venereal diseases	3.11	45.25	.....	.75	25.2
Diseases of the integumentary system	2.52	80.69	.....	.75	11.4
Diseases of the nervous system	2.14	63.35	.....	4.52	12.4
Constitutional diseases	1.99	26.40	.....	1.51	27.6
Diseases of the genito-urinary system	1.41	15.08	.....	1.51	34.2
Dietic diseases	1.13	60.33	.....	.....	6.8
Malarial diseases	.91	33.18	.....	.....	10.0
Diseases of the circulatory system	.86	6.79	.....	3.02	46.3
Diseases of the eye	.64	16.59	.....	2.26	14.1
Diarrhœal diseases	.53	70.89	.....	.....	2.7
Diseases of the lymphatic system	.39	5.28	.....	.....	26.7
Diseases of the ear	.35	13.57	.....	.75	9.4
Zoögenous diseases	.33	17.35	.....	.....	6.9
Specific febrile and acute infectious diseases	.25	4.52	.....	.....	20.3
Septic diseases	.13	3.02	.....	.....	15.2
Parasitic diseases	.01	1.51	.....	.....	3.0
Developmental diseases	.....	.....	.....	2.26	.....
Unclassified	.57	22.62	.75	.75	9.2
Total	36.56	1,112.37	2.26	27.15	12.0

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE PRAIRIES—MIDDLE GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Rock Island Arsenal, Ill	57	64	8	72	1,263.16	1.31	22.96	2	2
Fort Omaha, Nebr	350	408	105	513	1,465.71	23.01	65.73	11	5
Omaha, Nebr. (headquarters)	32	3	.....	3	93.75	.03	.94	.....	.....
Fort Leavenworth, Kans. (post)	607	760	156	916	1,509.06	24.85	40.94	10	1
Fort Leavenworth, Kans. (headquarters)	36	6	.....	6	166.67	.14	3.95	.....	.....
Fort Leavenworth, Kans. (prison guard)	117	82	6	88	752.14	1.16	9.88	1	1
Fort Riley, Kans	402	360	98	458	1,139.30	20.65	51.36	11	2
Fort Reno, Ind. T	317	349	88	437	1,378.55	14.85	46.85	9	2
Fort Gibson, Ind. T	89	132	19	151	1,696.63	3.81	42.83	1	1
Fort Sill, Ind. T	277	366	75	441	1,592.06	12.40	44.75	12	2
Field	116	76	27	103	887.93	1.25	10.91	.....	.....
Total	2,400	2,606	582	3,188	1,328.33	103.46	43.11	57	16

Classified causes.	Ratio per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	9.83	242.50	2.50	4.17	14.8
Venereal diseases	5.48	71.67	.42	3.75	28.0
Malarial diseases	4.01	182.07	.42	.42	8.1
Diseases of the respiratory system	3.89	107.08	.83	2.50	13.3
Diseases of the digestive system	3.24	157.08	.42	2.50	7.6
Constitutional diseases	2.37	37.50	.42	1.25	23.2
Diseases of the integumentary system	2.12	89.17	.....	.....	8.7
Diseases of the locomotor system	2.08	48.33	.....	3.33	15.7
Diseases of the nervous system	1.92	61.25	.....	1.25	11.4
Diarrhœal diseases	1.88	145.83	.42	.42	4.7
Diseases of the genito-urinary system	1.47	19.17	.....	.83	28.1
Diseases of the eye	1.44	24.58	.....	.42	21.5
Diseases of the lymphatic system	.73	11.25	.....	.....	23.6
Specific febrile and acute infectious diseases	.50	15.42	.....	.....	11.8
Diseases of the ear	.28	6.25	.....	.42	16.5
Dietic diseases	.27	32.08	.42	.....	3.0
Septic diseases	.26	4.58	.....	.....	21.0
Zoögenous diseases	.25	11.67	.....	.....	8.0
Diseases of the nose	.15	2.08	.....	.....	26.4
Diseases of the circulatory system	.14	3.33	.42	1.67	15.6
Developmental diseases	.05	.42	.....	.42	47.0
Parasitic diseases	.05	5.83	.....	.....	3.1
Typho-malarial fever	.01	.....	.42	.....	.....
Unclassified	.67	49.17	.....	.42	5.0
Total	43.11	1,328.33	6.67	23.75	11.9

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE PRAIRIES—SOUTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Concho, Tex	129	149	62	211	1,635.66	7.41	57.46	16	...
San Antonio, Tex. (post)	461	345	90	435	943.60	17.70	38.41	8	4
San Antonio, Tex. (hdqrs.)	31	7	.....	7	225.81	2.46	79.41	.....	.....
Field	30	20	3	23	766.67	.30	9.84	.....	.....
Total	651	521	155	676	1,038 40	27.87	42.82	24	4
Total for the region	4,377	4,248	1,091	5,339	1,219.79	179.83	41.09	117	23

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.85	238.10	.....	9.22	13.6
Venereal diseases	7.63	112.14	.....	4.61	24.9
Diseases of the respiratory system	4.02	61.44	3 07	4.61	23.9
Diseases of the nervous system	3.03	46.08	.....	3.07	24.1
Diseases of the integumentary system	2.71	86.02	.....	1.54	11.5
Diseases of the locomotor system	2.62	47.62	.....	.....	20.2
Malarial diseases	2.41	109.06	.....	.....	8.1
Constitutional diseases	2.04	19.97	.....	4.61	37.5
Diseases of the digestive system	1.83	61.44	3.07	1.54	10.9
Diseases of the genito-urinary system	1.65	15.36	.....	1.54	39.4
Diarrhœal diseases	1.57	121.35	.....	.....	4.7
Specific febrile and acute infectious diseases	1.33	23.04	.....	.....	21.2
Diseases of the circulatory system	1.25	9.22	.....	4.61	49.5
Diseases of the eye	.76	19.97	.....	.....	14.0
Dietic diseases	.37	41.47	.....	.....	3.3
Diseases of the ear	.28	6.14	.....	.....	16.7
Septic diseases	.14	6.14	.....	.....	8.5
Developmental diseases	.08	1.54	.....	1.54	18.0
Diseases of the lymphatic system	.06	3.07	.....	.....	7.5
Zoögenous diseases	.03	4.61	.....	.....	2.3
Parasitic diseases	.004	1.54	.....	.....	1.0
Unclassified	.12	3.07	.....	.....	14.5
Total	42.82	1,038.40	6.14	36.87	15.1

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

TOTAL FOR THE REGION OF THE PRAIRIES.

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	9.34	249.26	1.37	4.34	13.7
Venereal diseases	5.08	69.68	.23	2.97	26.7
Diseases of the respiratory system	3.92	103.72	1.14	2.51	13.8
Diseases of the digestive system	3.03	149.42	.91	1.60	7.4
Malarial diseases	2.83	126.11	.23	.23	8.2
Diseases of the locomotor system	2.58	52.32	.....	3.43	18.0
Diseases of the integumentary system	2.33	86.13	.....	.46	9.9
Constitutional diseases	2.21	31.53	.23	1.83	25.6
Diseases of the nervous system	2.15	59.63	.....	2.51	13.2
Diseases of the genito-urinary system	1.48	17.36	.....	1.14	31.2
Diarrhœal diseases	1.42	119.49	.23	.23	4.3
Diseases of the eye	1.10	21.48	.....	.91	18.7
Specific febrile and acute infectious diseases	.55	13.25	.....	.....	15.1
Dietic diseases	.54	42.04	.23	.....	4.7
Diseases of the lymphatic system	.52	8.22	.....	.....	23.3
Diseases of the circulatory system	.52	5.25	.23	2.51	36.5
Diseases of the ear	.30	8.45	.....	.46	13.1
Zoögenous diseases	.24	12.34	.....	.....	7.2
Septic diseases	.21	4.34	.....	.....	17.2
Diseases of the nose	.08	1.14	.....	.....	26.4
Developmental diseases	.04	.46	.....	1.14	32.5
Parasitic diseases	.03	3.88	.....	.....	3.0
Typho-malarial fever	.01	.....	.23	.....	.....
Unclassified	.56	34.27	.23	.46	5.9
Total	41.09	1,219.79	5.25	26.73	12.3

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE GREAT PLAINS—NORTHERN GROUP.

Names of stations.	Mean strength (corrected for time.)	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Assinniboine, Mont	412	354	107	461	1,118.93	15.07	36.59	9	1
Camp Poplar River, Mont	95	102	29	131	1,378.95	3.40	35.78	1	1
Fort Shaw, Mont	194	175	43	218	1,123.71	7.53	38.83	.....	3
Fort Maginnis, Mont	117	106	50	156	1,333.33	3.95	33.72	1	3
Fort Keogh, Mont	367	308	108	416	1,133.51	14.61	39.82	5	4
Fort Custer, Mont	375	361	106	467	1,245.33	18.59	49.58	13	3
Fort Meade, Dak	419	348	122	470	1,121.72	14.90	35.56	12	3
Fort McKinney, Wyo	191	202	44	246	1,287.96	6.97	36.51	6	....
Field	52	22	6	28	538.46	.49	9.35	.....	.....
Total	2,222	1,978	615	2,593	1,166.97	85.52	38.49	47	18

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	9.94	276.78	3.15	4.50	13.1
Venereal diseases	5.05	80.56	.....	2.70	23.0
Diseases of the respiratory system	3.97	108.91	2.25	2.25	13.3
Diseases of the digestive system	3.64	201.17	.45	.....	6.6
Diseases of the locomotor system	2.34	66.61	.....	1.35	12.9
Diseases of the integumentary system	1.93	68.86	.....	.....	10.3
Diseases of the nervous system	1.93	65.26	.45	.90	10.8
Constitutional diseases	1.67	33 30	.....	1.80	18.4
Malarial diseases	1.36	57.16	.....	.....	8.7
Diseases of the genito-urinary system	1.09	21.60	.....	1.80	18.5
Diseases of the eye	1.01	21.60	.....	1.35	17.1
Diseases of the lymphatic system	.95	13.05	.....	.....	26.6
Specific febrile and acute infectious diseases	.69	8.10	.....	.....	31.2
Diseases of the circulatory system	.67	9.45	1.35	1.35	26.0
Diseases of the ear	.52	6.30	.....	.90	29.9
Diarrhœal diseases	.46	63.01	.....	.....	2.7
Septic diseases	.32	6.30	.....	.....	18.7
Zoögenous diseases	.27	9.00	.....	.....	10.9
Dietic diseases	.26	31.05	.45	.....	3.1
Developmental diseases	.12	.90	.....	2.25	48.5
Diseases of the nose	.06	2.25	.....	.....	9.0
Parasitic diseases	.02	1.80	.....	.....	3.5
Unclassified	.22	13.95	.....	.....	5.7
Total	38.49	1,166.97	8.10	21.15	12.1

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE GREAT PLAINS—MIDDLE GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Niobrara, Nebr	383	415	125	540	1,409.92	13.91	36.31	15	4
Fort Robinson, Nebr	403	280	93	373	925.56	17.34	43.04	17	3
Fort Laramie, Wyo	184	199	52	251	1,364.13	8.51	46.26	14	3
Fort D. A. Russell, Wyo	332	251	49	300	903.61	12.35	37.21	7	4
Fort Sidney, Nebr	187	259	50	309	1,652.41	8.86	47.38	11	1
Fort Hays, Kans	137	178	16	194	1,416.06	6.31	46.03	4	....
Fort Lyon, Colo	209	204	35	239	1,143.54	4.80	22.96	4	2
Fort Supply, Ind. T	263	316	106	422	1,604.56	11.23	42.71	7	3
Fort Elliott, Tex	179	171	52	223	1,245.81	5.36	29.95	5	4
Field	436	371	140	511	1,172.02	5.80	13.30	1	....
Total	2,713	2,644	718	3,362	1,239.22	94.47	34.82	85	24

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.21	264.65	1.84	5.53	11.3
Diseases of the respiratory system	3.77	144.49	1.84	2.58	9.5
Diseases of the digestive system	3.45	185.40	1.84	2.95	6.8
Diseases of the locomotor system	2.92	64.87	.....	3.32	16.5
Venereal diseases	2.85	43.49	.....	2.95	24.0
Constitutional diseases	2.65	45.34	.37	2.58	21.4
Diseases of the integumentary system	1.73	71.51	.....	.37	8.9
Diarrhœal diseases	1.63	144.49	.37	.74	4.1
Malarial diseases	1.49	68.19	.....	.....	8.0
Diseases of the nervous system	1.45	71.14	.....	2.21	7.5
Diseases of the eye	.84	21.38	.....	1.47	14.4
Specific febrile and acute infectious diseases	.81	16.22	.74	.....	18.3
Diseases of the genito-urinary system	.73	14.01	.37	.74	19.0
Diseases of the circulatory system	.54	9.95	1.11	3.32	20.0
Diseases of the ear	.45	9.58	.....	.74	17.1
Dietic diseases	.34	29.12	.....	.....	4.2
Zoögenous diseases	.25	12.90	.....	.....	7.1
Diseases of the lymphatic system	.15	3.32	.....	.37	16.8
Septic diseases	.14	4.05	.37	.....	12.8
Developmental diseases	.07	.74	.....	1.11	34.0
Typho-malarial fever	.03	.74	.....	.....	15.0
Diseases of the nose	.02	1.11	.....	.37	5.7
Parasitic diseases	.002	.37	.....	.....	2.0
Unclassified	.29	12.16	.....	.....	8.8
Total	34.82	1,239.22	8.85	31.33	10.3

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE GREAT PLAINS—SOUTHERN GROUP.

Names of stations.	Mean strength (corrected for time.)	Cases.		Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Injury.	Total.					
Fort Stanton, N. Mex	162	65	27	92	567.90	4.06	25.05	2	3
Fort Bliss, Tex	115	149	25	174	1,513.04	3.61	31.41	3	1
Fort Hancock, Tex	49	55	23	78	1,591.84	2.06	42.04	1	2
Fort Davis, Tex	187	136	52	188	1,005.35	6.58	35.17	14	1
Camp Pena Colorado, Tex	52	21	13	34	653.85	1.45	27.90	1	....
Camp Langtry, Tex	22	7	3	10	454.55	.27	12.17	.....	....
Camp Del Rio, Tex	32	37	13	50	1,562.50	1.38	43.03	.....	....
Fort Clark, Tex	431	521	97	618	1,433.87	22.29	51.71	18	5
Camp at Eagle Pass, Tex	52	27	14	41	788.46	1.98	38.15	1	....
Fort McIntosh, Tex	142	241	52	293	2,063.38	8.84	62.23	7	2
Fort Ringgold, Tex	138	94	19	113	818.84	4.89	35.44	.....	1
Field	35	10	3	13	371.43	.31	8.98	.....	....
Total	1,417	1,363	341	1,704	1,202.54	57.71	40.73	47	15
Total for the region	6,352	5,985	1,674	7,659	1,205.76	237.70	37.42	179	57

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.05	240.65	4.23	2.82	12.3
Venereal diseases	7.20	130.56	.....	4.94	20.2
Diseases of the digestive system	3.38	153.85	.71	2.82	8.1
Malarial diseases	2.71	80.45	.....	.....	12.3
Diarrhœal diseases	2.50	117.15	.71	1.41	7.8
Diseases of the respiratory system	1.98	63.51	.71	3.53	11.4
Diseases of the locomotor system	1.92	61.40	.....	4.94	11.5
Constitutional diseases	1.86	26.82	.71	.71	25.3
Diseases of the nervous system	1.73	52.22	.....	2.12	12.1
Diseases of the integumentary system	1.60	66.34	.....	.....	8.9
Diseases of the genito-urinary system	1.52	13.41	.....	3.53	41.6
Specific febrile and acute infectious diseases	1.49	25.41	1.41	.....	21.5
Diseases of the circulatory system	1.10	9.88	.71	2.82	40.7
Diseases of the lymphatic system	.79	7.76	.....	.....	37.1
Dietic diseases	.67	73.39	.71	.....	4.3
Diseases of the eye	.61	28.93	.....	1.41	7.7
Zoögenous diseases	.30	11.29	.....	.....	9.7
Diseases of the ear	.25	6.35	.....	.....	14.7
Septic diseases	.14	4.23	.71	.....	12.0
Parasitic diseases	.07	5.65	.....	.....	4.5
Developmental diseases	.....	.....	.....	1.41	.....
Unclassified	.83	23.29	.....	.71	13.1
Total	40.73	1,202.54	10.59	33.17	12.4

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

TOTAL FOR THE REGION OF THE GREAT PLAINS.

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.78	263.54	2.83	4.57	12.2
Venereal diseases	4.59	75.88	.....	3.31	22.1
Diseases of the digestive system	3.51	183.88	1.10	1.89	7.0
Diseases of the respiratory system	3.44	113.98	1.73	2.68	11.0
Diseases of the locomotor system	2.49	64.70	.....	2.99	14.1
Constitutional diseases	2.13	37.00	.31	1.89	21.1
Diseases of the integumentary system	1.77	69.43	.....	.16	9.3
Malarial diseases	1.72	67.07	.....	.....	9.4
Diseases of the nervous system	1.68	64.86	.16	1.73	9.5
Diarrhœal diseases	1.42	109.89	.31	.63	4.7
Diseases of the genito-urinary system	1.03	16.53	.16	1.73	22.9
Specific febrile and acute infectious diseases	.91	15.43	.63	.....	21.8
Diseases of the eye	.85	23.14	.....	1.42	13.4
Diseases of the circulatory system	.71	9.76	1.10	2.52	26.7
Diseases of the lymphatic system	.57	7.71	.....	.16	27.2
Diseases of the ear	.43	7.71	.....	.63	20.3
Dietic diseases	.38	39.67	.31	.....	3.5
Zoögenous diseases	.27	11.18	.....	.....	8.7
Septic diseases	.20	4.88	.31	.....	15.2
Developmental diseases	.07	.63	.....	1.57	41.2
Diseases of the nose	.03	1.26	.....	.16	7.7
Parasitic diseases	.02	2.05	.....	.....	4.0
Typho-malarial fever	.01	.31	.....	.....	15.0
Unclassified	.39	15.27	.....	.16	9.3
Total	37.42	1,205.76	8.97	28.18	11.4

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE CORDILLERAS—NORTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Spokane, Wash	237	259	94	353	1,489.45	10.93	46.11	7	1
Fort Sherman, Idaho	236	240	60	300	1,271.19	8.56	36.27	8	3
Fort Missoula, Mont	189	158	36	194	1,026.46	6.94	36.70	3	2
Fort Walla Walla, Wash	291	312	94	406	1,395.19	13.36	45.90	8	....
Helena, Mont	2	.....	.....	.....	.....	.....	.....	.....	....
Boisé Barracks, Idaho	98	152	64	216	2,204.08	5.20	53.11	3	....
Fort Washakie, Wyo	126	164	51	215	1,706.35	5.50	43.65	3	1
Camp Sheridan, Wyo	56	60	18	78	1,392.86	2.81	50.25	4	1
Field	45	21	17	38	844.44	.71	15.79	.....	....
Total	1,280	1,366	434	1,800	1,406.25	54.01	42.20	36	8

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	10.82	339.06	3.91	4.69	11.7
Venereal diseases	4.43	76.56	.....	.78	21.2
Diseases of the respiratory system	4.23	157.81	.....	4.69	9.8
Constitutional diseases	4.03	56.25	.....	3.12	26.2
Diseases of the integumentary system	3.64	100.78	.....	.....	13.2
Diseases of the digestive system	3.60	189.84	1.56	3.12	6.9
Diseases of the locomotor system	2.24	75.78	.....	2.34	10.8
Malarial diseases	1.98	79.69	.....	.....	9.1
Diseases of the nervous system	1.91	75.78	.78	2.34	9.2
Diseases of the genito-urinary system	1.36	22.66	.....	.78	22.0
Diarrhœal diseases	1.09	114.06	.....	.78	3.5
Dietic diseases	.78	47.66	.....	2.34	6.0
Diseases of the lymphatic system	.53	5.47	.....	.....	35.6
Diseases of the ear	.36	10.16	.....	.78	12.2
Specific febrile and acute infectious diseases	.30	7.03	.....	.....	15.6
Diseases of the eye	.21	16.41	.....	.78	4.7
Diseases of the circulatory system	.19	6.25	.....	.78	11.2
Zoögenous diseases	.07	3.12	.....	.....	8.0
Typho-malarial fever	.06	.78	.....	.....	28.0
Septic diseases	.04	1.56	.....	.....	9.0
Parasitic diseases	.03	3.12	.....	.....	3.7
Diseases of the nose	.03	3.91	.....	.....	3.0
Developmental diseases	.....	.....	.....	.78	.....
Unclassified	.25	12.50	.....	.....	7.4
Total	42.20	1,406.25	6.25	28.12	11.0

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE CORDILLERAS—MIDDLE GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Klamath, Oregon	53	48	5	53	1,000.00	1.20	22.68	2	1
Fort Bidwell, Cal	121	105	36	141	1,165.29	3.33	27.55	3	....
Fort McDermit, Nev	40	22	4	26	650.00	.22	5.46	3	....
Fort Bridger, Wyo	169	138	39	177	1,047.34	6.02	35.65	9	....
Camp Pilot Butte, Wyo	80	80	27	107	1,337.50	3.46	43.27	5	3
Fort Douglas, Utah	330	359	71	430	1,303.03	13.78	41.75	11	5
Fort Du Chesne, Utah	222	312	56	368	1,657.66	8.67	39.08	7	....
Post near Denver, Colo	97	224	24	248	2,556.70	7.46	76.95	....	....
Fort Crawford, Colo	82	46	16	62	756.10	3.20	38.98	1	1
Fort Lewis, Colo	316	201	47	248	784.81	9.43	29.84	7	1
Fort Union, N. Mex	231	178	42	220	952.38	7.61	32.93	5	1
Fort Wingate, N. Mex	314	227	73	300	955.41	11.71	37.30	4	1
Fort Marcy, N. Mex	85	99	28	127	1,494.12	4.02	47.32	3	1
Field	101	88	26	114	1,128.71	1.40	13.88	....	....
Total	2,241	2,127	494	2,621	1,169.57	81.52	36.38	60	14

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.16	220.44	....	2.68	13.5
Venereal diseases	3.55	49.53	....	2.23	26.2
Diseases of the respiratory system	3.36	132.08	1.78	2.23	9.3
Diseases of the digestive system	3.20	193.66	....	2.23	6.0
Constitutional diseases	2.97	59.35	.45	3.12	18.3
Diseases of the nervous system	2.69	72.74	.45	3.12	13.6
Diseases of the locomotor system	2.02	57.12	....	3.12	12.9
Diseases of the integumentary system	1.63	54.44	....	.45	11.0
Malarial diseases	1.53	58.90	.45	....	9.5
Specific febrile and acute infectious diseases	1.24	38.38	.89	....	11.9
Diseases of the eye	.94	19.19	....	.89	17.9
Diseases of the circulatory system	.89	12.05	.45	3.12	27.0
Diseases of the genito-urinary system	.73	12.05	.45	.45	22.0
Diarrhœal diseases	.72	90.14	....	....	2.9
Diseases of the ear	.59	6.69	....	.45	32.1
Dietic diseases	.55	43.73	.45	.45	4.6
Diseases of the lymphatic system	.43	6.69	....	....	23.5
Septic diseases	.29	3.57	.89	....	29.7
Zoögenous diseases	.17	10.26	....	....	6.0
Developmental diseases	.11	.45	....	.89	90.0
Parasitic diseases	.05	4.02	....	....	4.4
Diseases of the nose	.04	1.78	....	.45	9.0
Unclassified	.52	22.31	....	.89	8.5
Total	36.38	1,169.57	6.25	26.77	11.4

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE CORDILLERAS—SOUTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Mojave, Ariz	47	52	7	59	1,255.32	2.78	59.24	3	....
Whipple Barracks, Ariz	186	140	27	167	897.85	8.63	46.37	11	....
Fort Verde, Ariz	66	49	21	70	1,060.61	2.53	38.29	2	....
Fort Apache, Ariz	196	142	41	183	933.67	5.41	27.60	2	1
Fort McDowell, Ariz	98	102	25	127	1,295.92	2.89	29.49	1	1
San Carlos, Ariz	192	254	25	279	1,453.12	7.67	39.96	2	4
Fort Thomas, Ariz	106	139	34	173	1,632.08	5.97	56.35	4	2
Fort Bayard, N. Mex	316	451	106	557	1,762.66	12.51	39.60	13	4
Fort Selden, N. Mex	25	15	5	20	800.00	.72	28.74	....	....
Fort Grant, Ariz	274	166	111	277	1,010.95	13.91	50.76	2	3
Fort Bowie, Ariz	139	101	22	123	884.89	3.94	28.34	4	....
Fort Lowell, Ariz	149	192	59	251	1,684.56	7.81	52.41	10	1
Fort Huachuca, Ariz	283	155	57	212	749.12	8.24	29.12	2	1
Field	8	....	....	....	....	....	....	....	....
Total	2,085	1,958	540	2,498	1,198.08	83.01	39.81	56	17
Total for the region	5,606	5,451	1,468	6,919	1,234.21	218.55	38.98	152	39

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	7.74	258.99	3.36	1.92	10.9
Venereal diseases	5.97	71.46	....	6.24	30.6
Diseases of the digestive system	4.04	194.24	.96	.96	7.6
Malarial diseases	3.41	100.24	.48	....	12.5
Diarrhœal diseases	3.24	149.64	.96	1.92	7.9
Diseases of the respiratory system	2.80	86.81	1.92	1.44	11.8
Diseases of the locomotor system	2.66	65.71	....	1.92	14.8
Constitutional diseases	2.42	39.81	....	2.88	22.2
Diseases of the integumentary system	1.45	55.64	....	.48	9.5
Diseases of the nervous system	1.32	59.95	....	2.40	8.0
Diseases of the circulatory system	.89	9.59	....	2.40	34.1
Specific febrile and acute infectious diseases	.87	11.03	.48	....	28.8
Diseases of the genito-urinary system	.84	18.23	....	.96	16.9
Diseases of the eye	.68	16.31	....	1.92	15.3
Zoögenous diseases	.42	12.05	....	....	11.8
Diseases of the lymphatic system	.30	5.76	....	....	18.8
Diseases of the ear	.21	5.76	....	....	13.6
Dietic diseases	.18	18.23	....	.48	3.7
Typho-malarial fever	.07	.48	....	....	50.0
Diseases of the nose	.05	1.44	....	.48	13.0
Septic diseases	.03	1.44	....	....	7.0
Developmental diseases	.02	.48	....	....	15.0
Parasitic diseases	.01	1.44	....	....	1.3
Unclassified	.21	12.47	....	.48	6.3
Total	39.81	1,198.08	8.15	26.86	12.2

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

TOTAL FOR THE REGION OF THE CORDILLERAS.

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.61	261.86	2.14	2.85	12.0
Venereal diseases	4.65	63.86	.....	3.39	26.7
Diseases of the digestive system	3.60	193.01	.71	1.96	6.8
Diseases of the respiratory system	3.35	121.12	1.43	2.50	10.1
Constitutional diseases	3.00	51.37	.18	3.03	21.4
Malarial diseases	2.33	79.02	.36	.....	10.8
Diseases of the locomotor system	2.31	64.57	.....	2.50	13.1
Diseases of the integumentary system	2.02	65.47	.....	.36	11.3
Diseases of the nervous system	2.00	68.68	.36	2.68	10.7
Diarrhœal diseases	1.74	117.73	.36	.89	5.4
Diseases of the genito-urinary system	.91	16.77	.18	.71	19.9
Specific febrile and acute infectious diseases	.89	21.05	.54	.....	15.4
Diseases of the circulatory system	.73	9.81	.18	2.32	27.3
Diseases of the eye	.68	17.48	.....	1.25	14.2
Dietic diseases	.47	35.14	.18	.89	4.9
Diseases of the lymphatic system	.40	6.06	.....	.....	25.5
Diseases of the ear	.40	7.14	.....	.36	20.3
Zoögenous diseases	.24	9.63	.....	.....	9.1
Septic diseases	.14	2.32	.36	.....	21.3
Developmental diseases	.05	.36	.....	.54	52.5
Diseases of the nose	.04	2.14	.....	.36	7.5
Typho-malarial fever	.04	.36	.....	.....	39.0
Parasitic diseases	.03	2.85	.....	.....	3.7
Unclassified	.34	16.41	.....	.54	7.7
Total	38.98	1,234.21	6.96	27.11	11.6

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE PACIFIC COAST—NORTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Townsend, Wash	52	47	9	56	1,076.92	1.41	27.06	1	1
Vancouver Barracks, Wash	441	450	110	560	1,269.84	18.60	42.19	15	1
Field	7	1	2	3	428.57	.05	6.64	.....	.....
Total	500	498	121	619	1,238.00	20.06	40.11	16	2

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.25	242.00	.....	6.00	12.5
Diseases of the respiratory system	4.91	110.00	.....	8.00	16.3
Diseases of the locomotor system	3.68	118.00	.....	2.00	11.4
Diseases of the nervous system	3.43	62.00	2.00	2.00	20.3
Malarial diseases	3.20	108.00	.....	.....	10.8
Diseases of the integumentary system	2.86	148.00	.....	.....	7.1
Diseases of the digestive system	2.68	132.00	.....	2.00	7.4
Diseases of the genito-urinary system	2.61	22.00	.....	4.00	43.4
Venereal diseases	2.31	42.00	.....	2.00	20.1
Diarrhœal diseases	1.25	76.00	.....	.....	6.0
Constitutional diseases	1.19	18.00	.....	2.00	24.2
Dietic diseases	1.08	98.00	.....	.....	4.0
Diseases of the eye	1.02	26.00	.....	.....	14.4
Diseases of the nose	.62	2.00	.....	.....	114.0
Diseases of the lymphatic system	.43	6.00	.....	.....	26.3
Diseases of the circulatory system	.13	4.00	2.00	4.00	11.5
Specific febrile and acute infectious diseases	.11	8.00	.....	.....	5.0
Zoögenous diseases	.09	8.00	.....	.....	4.2
Diseases of the ear	.08	2.00	.....	.....	15.0
Developmental diseases	.02	2.00	.....	.....	4.0
Unclassified	.15	4.00	.....	.....	13.5
Total	40.11	1,238.00	4.00	32.00	11.9

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

REGION OF THE PACIFIC COAST—SOUTHERN GROUP.

Names of stations.	Mean strength (corrected for time).	Cases.			Admission rate per 1,000 of mean strength.	Average number sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharges for disability.	Deaths.
		Disease.	Injury.	Total.					
Fort Gaston, Cal	41	26	9	35	853.66	1.75	42.58	4	....
Fort Mason, Cal	46	32	4	36	782.61	1.38	30.00	1	....
Alcatraz Island, Cal	94	67	13	80	851.06	3.91	41.56	5	....
Angel Island, Cal	140	72	17	89	635.71	5.72	40.87	8	2
Presidio of San Francisco, Cal	439	372	121	493	1,123.01	23.90	54.43	32	7
Benicia Barracks, Cal	70	56	21	77	1,100.00	4.57	65.30	5	1
Benicia Arsenal, Cal	55	46	1	47	854.55	.77	14.01	.....	.....
San Francisco, Cal	38	9	1	10	263.16	.26	67.59	.....	1
Los Angeles, Cal	27	1	.....	1	37.04	.04	16.19	.....	.....
San Diego Barracks, Cal	53	53	12	65	1,226.42	2.86	53.87	2	2
Field	85	166	15	181	2,129.41	4.30	50.59	16	3
Total	1,088	900	214	1,114	1,023.90	49.45	45.45	73	16
Total for the region	1,588	1,398	335	1,733	1,091.31	69.51	43.77	89	18

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.74	196.69	3.68	7.35	16.3
Malarial diseases	7.52	150.74	1.84	.....	18.3
Venereal diseases	6.94	101.10	.....	17.46	25.1
Diseases of the respiratory system	4.86	86.40	.92	4.60	20.6
Diseases of the digestive system	4.46	125.00	1.84	3.68	13.1
Constitutional diseases	3.02	39.52	.92	3.68	27.9
Diseases of the integumentary system	1.85	68.01	.92	.92	10.0
Specific febrile and acute infectious diseases	1.44	16.54	.92	.....	31.9
Diseases of the locomotor system	1.34	41.36	.....	4.60	11.9
Diseases of the nervous system	1.06	47.79	.....	4.60	8.1
Diseases of the eye	1.04	16.54	.....	3.68	23.0
Diseases of the genito-urinary system	.77	13.79	.....	1.84	20.5
Dietic diseases	.71	45.04	1.84	2.76	5.8
Diseases of the circulatory system	.52	11.95	.92	8.27	15.9
Zoögenous diseases	.29	10.11	.....	.....	10.5
Diarrheal diseases	.29	37.68	.....	.....	2.8
Diseases of the lymphatic system	.24	2.76	.....	.....	32.0
Developmental diseases	.10	.92	.....	2.76	38.0
Septic diseases	.07	1.84	.92	.....	13.0
Diseases of the ear	.05	2.76	.....	.92	6.0
Parasitic diseases	.01	1.84	.....	.....	2.5
Unclassified	.13	5.51	.....	.....	8.5
Total	45.45	1,023.90	14.71	67.10	16.2

TABLE XII.—*Showing for each region the various military stations, etc.*—Continued.

TOTAL FOR THE REGION OF THE PACIFIC COAST.

Classified causes.	Ratios per 1,000 of mean strength of—				Average number of days each case was treated.
	Men constantly non-effective.	Admissions to sick report.	Deaths.	Discharges	
Injuries	8.58	210.96	2.52	6.93	14.9
Malarial diseases	6.16	137.28	1.26	.....	16.4
Venereal diseases	5.49	82.49	.....	12.59	24.3
Diseases of the respiratory system	4.88	93.83	.63	5.67	19.0
Diseases of the digestive system	3.90	127.20	1.26	3.15	11.2
Constitutional diseases	2.44	32.75	.63	3.15	27.3
Diseases of the integumentary system	2.17	93.20	.63	.63	8.5
Diseases of the locomotor system	2.08	65.49	.....	3.78	11.6
Diseases of the nervous system	1.80	52.27	.63	3.78	12.6
Diseases of the genito-urinary system	1.35	16.37	.....	2.52	30.2
Diseases of the eye	1.03	19.52	.....	2.52	19.4
Specific febrile and acute infectious diseases	1.02	13.85	.63	.....	27.0
Dietic diseases	.83	61.71	1.26	1.89	4.9
Diarrhœal diseases	.59	49.75	.....	.....	4.3
Diseases of the circulatory system	.40	9.45	1.26	6.93	15.3
Diseases of the lymphatic system	.30	3.78	.....	.....	29.2
Zoögenous diseases	.23	9.45	.....	.....	8.9
Diseases of the nose	.20	.63	.....	.....	114.0
Developmental diseases	.07	1.26	.....	1.89	21.0
Diseases of the ear	.06	2.52	.....	.63	8.2
Septic diseases	.04	1.26	.63	.....	13.0
Parasitic diseases	.01	1.26	.....	.....	2.5
Unclassified	.13	5.04	.....	.....	9.7
Total	43.77	1,091.31	11.34	56.05	14.7

TABLE XIII.—*Showing, for each region and each military station therein, the causes and stant non-effectiveness, for the year* 1888; *also the*

	Names of regions and military stations.	Atlantic Coast.				Fort Preble, Me.			
	Mean strength, respectively, for years 1888, 1887, and decade.	2,385.	2,285.	1,930.		41.	39.	42.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	5.03	1.26	.42	.78	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	24.74	.42	.....	.90	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	109.85	.42	.....	2.84	121.95	.....	.....	1.73
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	127.04	.....	.....	1.17	121.95	.....	.....	.60
6	Dysentery	7.13	.....	.....	.23	24.39	.....	.....	.07
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	35.64	.....	.....	1.66	.....	.....	.....	.....
9	Syphilis and results	22.22	.....	1.26	1.57	.....	.....	.....	.....
10	Other venereal diseases	15.51	.....	.....	.74	.....	.....	.....	.....
11	Vaccina	80.50	.....	.....	1.65	.....	.....	.....	.....
12	Other enthetic diseases	.84	.....	.....	.03	.....	.....	.....	.....
13	Alcoholism	62.89	.....	.....	.48	73.17	.....	.....	.....
14	Other dietic diseases	.84	.....	.....	.03	.....	.....	.....	.53
15	Rheumatism (including muscular)	100.21	.....	2.10	3.33	170.73	.....	24.39	9.80
16	Other constitutional diseases	5.03	.42	.84	.36	.....	.....	.....	.....
17	Developmental diseases	.84	.....	.42	.06	.....	.....	.....	.....
18	Parasitic diseases	11.32	.....	.....	.19	.....	.....	.....	.....
19	Headache and neuralgia	52.83	.....	.....	.70	.....	.....	.....	.....
20	Other diseases of the nervous system.	11.32	.....	1.68	.97	24.39	.....	.....	1.60
21	Diseases of the eye	19.71	.....	.84	.65	.....	.....	.....	.....
22	Diseases of the ear	10.90	.....	.....	.53	24.39	.....	.....	.07
23	Catarrhs and common colds	30.61	.....	.....	.31	97.56	.....	.....	.53
24	Bronchitis	101.89	.42	.42	2.14	73.17	.....	.....	1.33
25	Pneumonia	9.64	2.10	.....	.71	.....	.....	.....	.....
26	Pulmonary phthisis	4.61	1.68	2.10	.82	24.39	.....	24.39	2.53
27	Pleuritis	2.94	.....	.....	.53	.....	.....	.....	.....
28	Other diseases of the respiratory system.	8.39	.42	.....	.22	.....	.....	.....	.....
29	Diseases of the heart and valves	6.29	.....	.84	.58	.....	.....	.....	.....
30	Other diseases of the circulatory system.	3.35	.84	.84	.52	.....	.....	.....	.....
31	Tonsillitis	45.28	.....	.....	.82	97.56	.....	.....	1.73
32	Dyspepsia, colic, and constipation	77.15	.....	.....	.63	48.78	.....	.....	.27
33	Other diseases of the digestive system.	70.02	1.26	2.10	1.50	219.51	.....	.....	1.93
34	Diseases of the kidneys	3.35	.....	.84	.35	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	16.35	.....	.84	.70	.....	.....	.....	.....
36	Diseases of the locomotory system (excluding muscular rheumatism).	15.09	.....	1.68	1.24	.....	.....	.....	.....
37	Diseases of the integumentary system.	79.25	.....	.....	2.24	48.78	.....	.....	1.00
38	All other diseases	23.90	.....	.42	1.08	.....	.....	.....	.....
39	Heat-stroke	.42	.42	.....	.09	.....	.....	.....	.....
40	Frost-bite and general freezing	2.52	.....	.....	.06	.....	.....	.....	.....
41	Contusions and sprains	118.66	.....	.....	2.58	170.73	.....	.....	1.73
42	Dislocations	2.94	.....	.....	.24	48.78	.....	.....	7.26
43	Fractures (not gunshot)	7.13	.42	.....	1.22	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	36.90	.....	.....	1.45	48.78	.....	.....	.80
45	Shot wounds	1.26	.42	.....	.25	.....	.....	.....	.....
46	All other injuries	38.57	.42	.42	1.22	48.78	.....	24.39	.40
	Total for disease	1,202.52	9.22	17.61	33.32	1,170.73	.....	48.78	23.72
	Total for injuries	208.38	1.68	.42	7.11	317.07	.....	24.39	10.20
	Total for all causes: Year 1888	1,410.90	10.90	18.03	40.43	1,487.80	.....	73.17	33.92
	Total for all causes: Year 1887	1,394.75	7.44	27.13	39.27	1,974.36	25.64	25.64	45.87
	Total for all causes: Decade	1,619.60	8.91	31.87	.....	1,574.82	4.75	30.88	.....

ratios, per 1,000 *of mean strength, of admissions to sick report, deaths, discharges, and constantly non-effective, totals for the year* 1887, *and the decade* 1877–1886.

Fort Warren, Mass.				Watertown Arsenal, Mass.				Fort Adams, R. I.				
78.	73.	69.		34.	33.	29.		229.	235.	216.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
64.10	.....	.....	3.19	88.24	.....	.....	.64	34.93	.....	.....	.61	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
166.67	.....	.....	.84	58.82	.....	.....	.16	78.60	.....	.....	.63	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
76.92	.....	.....	6.41	.....	.....	.....	.....	4.37	.....	.....	.66	8
.....	.....	.....	.....	.....	.....	.....	.....	8.73	.....	.....	.32	9
38.46	.....	.....	5.29	.....	.....	.....	.....	.....	.....	.....	.....	10
.....	.....	.....	.....	.....	.....	.....	.....	8.73	.....	.....	.33	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
89.74	.....	.....	.39	58.82	.....	.....	.32	21.83	.....	.....	.19	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
51.28	.....	.....	.60	205.88	.....	.....	3.70	122.27	.....	.....	2.39	15
12.82	.....	.....	.11	.....	.....	.....	.....	8.73	.....	.....	.16	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
38.46	.....	.....	.25	58.82	.....	.....	.56	52.40	.....	.....	.49	19
.....	.....	.....	.....	.....	.....	29.41	10.29	8.73	.....	.....	.85	20
.....	.....	.....	.....	.....	.....	.....	.....	8.73	.....	.....	.05	21
.....	.....	.....	.....	.....	.....	.....	.....	30.57	.....	.....	.87	22
51.28	.....	.....	.53	29.41	.....	.....	.08	4.37	.....	.....	.04	23
25.64	.....	.....	.28	235.29	.....	.....	1.69	56.77	.....	.....	2.61	24
.....	.....	.....	.....	.....	.....	.....	.....	17.47	4.37	.....	1.29	25
12.82	.....	.....	2.52	.....	.....	.....	.....	4.37	4.37	.....	2.24	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
25.64	.....	.....	.28	.....	.....	.....	.....	52.40	4.37	.....	1.42	28
12.82	.....	.....	.07	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	12.82	.....	.....	.....	.....	4.37	4.37	.....	.29	30
25.64	.....	.....	.11	.....	.....	.....	.....	43.67	.....	.....	.45	31
38.46	.....	.....	.25	58.82	.....	.....	.32	43.67	.....	.....	.31	32
51.28	.....	.....	.67	58.82	.....	.....	1.45	30.57	.....	.....	.81	33
.....	.....	.....	.....	.....	.....	.....	.....	4.37	.....	.....	.37	34
12.82	.....	.....	.49	58.82	.....	.....	2.17	8.73	.....	.....	.35	35
.....	.....	.....	.....	.....	.....	.....	.....	4.37	.....	.....	.68	36
102.56	.....	.....	1.16	.....	.....	.....	.....	87.34	.....	.....	2.72	37
25.64	.....	.....	.32	.....	.....	.....	.....	34.93	.....	.....	.18	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
179.49	.....	.....	1.54	29.41	.....	.....	.08	161.57	.....	.....	3.59	41
.....	.....	.....	.....	.....	.....	.....	.....	4.37	.....	.....	.50	42
12.82	.....	.....	1.58	29.41	29.41	.....	.32	4.37	.....	.....	1.72	43
64.10	.....	.....	2.38	29.41	.....	.....	3.78	48.03	.....	.....	1.72	44
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
115.38	.....	.....	8.34	29.41	.....	.....	.24	43.67	.....	.....	1.22	46
923.08	.....	.....	36.53	911.76	.....	29.41	21.38	786.02	17.47	.....	21.30	
371.79	.....	.....	13.84	117.65	29.41	.....	4.42	262.01	.....	.....	8.74	
1,294.87	.....	.....	50.37	1,029.41	29.41	29.41	25.80	1,048.03	17.47	.....	30.04	
1,082.19	13.70	.....	43.91	1,333.33	.....	60.61	67.33	919.15	.....	25.53	39.24	
1,623.02	5.76	46.04	.....	1,115.65	6.80	10.20	.....	1,328.27	8.79	18.97	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Trumbull, Conn.				Fort Columbus, N. Y.			
	Mean strength, respectively, for years 1888, 1887, and decade.	72.	70.	77.		152.	153.	162.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	13.89	.....	.....	.46	13.16	.....	.....	.83
3	Malarial fevers and resulting conditions.	.....	.....	.....	.....	.....	.....	.....	.....
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	69.44	.....	.....	.38	39.47	.....	.....	.31
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	26.32	.....	.....	1.53
9	Syphilis and results	.....	.....	.....	.....	13.16	.....	.....	1.42
10	Other venereal diseases	13.89	.....	.....	.15	52.63	.....	.....	2.12
11	Vaccina	.....	.....	.....	.....	.....	.....	.....	.....
12	Other enthetic diseases	13.89	.....	.....	.95	.....	.....	.....	.....
13	Alcoholism	55.56	.....	.....	.30	59.21	.....	.....	.49
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	27.78	.....	.....	.11	164.47	.....	.....	5.70
16	Other constitutional diseases	.....	.....	.....	.....	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	41.67	.....	.....	.15	19.74	.....	.....	.20
20	Other diseases of the nervous system.	.....	.....	.....	.....	13.16	.....	.....	1.44
21	Diseases of the eye	.....	.....	.....	.....	26.32	.....	.....	.20
22	Diseases of the ear	.....	.....	.....	.....	.....	.....	.....	.89
23	Catarrhs and common colds	27.78	.....	.....	.11	6.58	.....	.....	.07
24	Bronchitis	41.67	.....	.....	2.31	32.89	.....	.....	.86
25	Pneumonia	13.89	13.89	.....	.04	.....	.....	.....	.....
26	Pulmonary phthisis	27.78	13.89	.....	6.68	.....	.....	.....	.....
27	Pleuritis	.....	.....	.....	.....	6.58	.....	.....	.18
28	Other diseases of the respiratory system.	.....	.....	.....	.....	6.58	.....	.....	.14
29	Diseases of the heart and valves	.....	.....	.....	.....	.....	.....	.....	.....
30	Other diseases of the circulatory system.	.....	.....	.....	.....	6.58	.....	.....	.02
31	Tonsillitis	13.89	.....	.....	.11	32.89	.....	.....	.70
32	Dyspepsia, colic, and constipation	13.89	.....	.....	.04	13.16	.....	.....	.07
33	Other diseases of the digestive system.	27.78	.....	.....	.23	46.05	.....	.....	.68
34	Diseases of the kidneys	.....	.....	.....	.....	6.58	.....	.....	.47
35	Other diseases of the genito-urinary system (non-venereal).	.....	.....	.....	.....	19.74	.....	.....	1.82
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	6.58	.....	.....	.84
37	Diseases of the integumentary system.	69.44	.....	.....	.68	59.21	.....	.....	1.01
38	All other diseases	41.67	.....	.....	.42	19.74	.....	.....	3.54
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	152.78	.....	.....	5.05	59.21	.....	.....	1.19
42	Dislocations	.....	.....	.....	.....	6.58	.....	.....	.49
43	Fractures (not gunshot)	.....	.....	.....	.....	6.58	.....	.....	3.90
44	Incised, lacerated, contused, and punctured wounds.	41.67	.....	.....	1.10	19.74	.....	.....	.40
45	Shot wounds	.....	.....	.....	.....	.....	.....	.....	.....
46	All other injuries	41.67	.....	.....	1.02	26.32	.....	.....	2.73
	Total for disease	513.89	27.78	.....	13.13	690.79	.....	.....	25.44
	Total for injuries	236.11	.....	.....	7.17	118.42	.....	.....	8.70
	Total for all causes: Year 1888	750.00	27.78	.....	20.30	809.21	.....	.....	34.14
	Total for all causes: Year 1887	471.43	.....	28.57	20.36	1,013.07	6.54	26.14	24.87
	Total for all causes: Decade	1,320.26	9.15	13.07	.....	1,403.40	10.50	24.09	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Schuyler, N. Y.				Fort Hamilton, N. Y.				Fort Wadsworth, N. Y.				
71.	69.	63.		196.	175.	201.		60.	40.	60.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
14.08	.....	.....	.23	.....	.....	.....	.....	.....	.....	.....	.....	2
98.59	.....	.....	1.27	127.55	.....	.....	1.30	150.00	.....	.....	5.01	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
140.85	.....	.....	.92	56.12	.....	.....	.36	66.67	.....	.....	.27	5
28.17	.....	.....	2.16	5.10	.....	.....	.06	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
42.25	.....	.....	1.08	51.02	.....	.....	2.01	.....	.....	.....	.....	8
.....	.....	.....	.....	25.51	.....	5.10	.85	.....	.....	.....	.....	9
14.08	.....	.....	.27	.....	.....	.....	.....	.....	.....	.....	.....	10
14.08	.....	.....	.15	10.20	.....	.....	.15	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
98.59	.....	.....	.73	117.35	.....	.....	.71	16.67	.....	.....	.14	13
.....	.....	.....	.....	5.10	.....	.....	.11	.....	.....	.....	.....	14
140.85	.....	14.08	2.16	61.22	.....	.....	4.32	66.67	.....	.....	.73	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
56.34	.....	.....	.54	35.71	.....	.....	.26	16.67	.....	.....	.05	19
14.08	.....	14.08	.89	5.10	.....	.....	.03	16.67	.....	.....	.05	20
14.08	.....	.....	.50	15.31	.....	.....	.84	.....	.....	16.67	.36	21
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
14.08	.....	.....	.04	224.49	.....	.....	2.12	16.67	.....	.....	.05	23
253.52	.....	.....	2.16	20.41	.....	.....	.35	50.00	.....	.....	1.41	24
.....	.....	.....	3.46	.....	.....	.....	.....	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	5.10	.....	.....	5.19	.....	.....	.....	.....	27
.....	.....	.....	.....	10.20	.....	.....	.13	.....	.....	.....	.....	28
14.08	.....	.....	1.77	5.10	.....	.....	.04	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
28.17	.....	.....	.27	10.20	.....	.....	.13	.....	.....	.....	.....	31
84.51	.....	.....	.42	51.02	.....	.....	.29	66.67	.....	.....	.59	32
84.51	.....	.....	1.04	10.20	.....	.....	.18	50.00	.....	.....	.23	33
14.08	.....	.....	.50	.....	.....	.....	.31	.....	.....	.....	.....	34
14.08	.....	.....	.27	10.29	.....	5.10	.78	16.67	.....	.....	.46	35
.....	.....	.....	.....	25.51	.....	5.10	1.25	16.67	.....	16.67	4.01	36
56.34	.....	.....	1.00	51.02	.....	.....	4.32	.....	.....	.....	.....	37
14.08	.....	.....	.31	5.10	.....	.....	.38	.....	.....	.....	.....	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
126.76	.....	.....	2.46	96.94	.....	.....	1.17	50.00	.....	.....	4.33	41
.....	.....	.....	.....	5.10	.....	.....	.32	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.....	16.67	.....	.....	1.14	43
28.17	.....	.....	.50	15.31	.....	.....	.40	33.33	.....	.....	.55	44
.....	.....	.....	.....	.....	5.10	.....	.....	16.67	.....	.....	.68	45
.....	.....	.....	.....	45.92	.....	.....	.75	16.67	.....	.....	.05	46
1,253.52	.....	28.17	22.13	943.88	.....	15.31	26.46	550.00	.....	33.33	13.34	
154.93	.....	.....	2.96	163.26	5.10	.....	2.65	133.33	.....	.....	6.74	
1,408.45	.....	28.17	25.09	1,107.14	5.10	15.31	29.11	683.33	.....	33.33	20.08	
1,333.33	14.49	57.97	39.19	1,102.86	5.71	17.14	32.31	900.00	.....	75.00	19.93	
1,225.55	11.04	22.08	.....	2,058.18	6.46	38.79	.....	1,276.85	3.36	18.46	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Wood, N. Y.				David's Island, N. Y.			
	Mean strength, respectively, for years 1888, 1887, and decade.	38.	15.	—.		634.	574.	351.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	6.31	3.15	.....	1.04
2	Other specific contagious and infectious diseases, including erysipelas.	26.32	.....	.....	.07	64.67	1.58	.....	2.12
3	Malarial fevers and resulting conditions	.....	.....	.....	.....	129.34	.....	.....	5.38
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	26.32	.....	.....	.07	39.43	.....	.....	.47
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	50.47	.....	.....	1.75
9	Syphilis and results	52.63	.....	.....	.14	23.66	.....	.....	1.66
10	Other venereal diseases	26.32	.....	.....	.....	12.62	.....	.....	.50
11	Vaccina	.....	.....	.....	.....	283.91	.....	.....	5.77
12	Other enthetic diseases	.....	.....	.....	.....	.....	.....	.....	.....
13	Alcoholism	26.32	.....	.....	.07	26.81	.....	.....	.26
14	Other dietic diseases	.....	.....	.....	.....	1.58	.....	.....	.08
15	Rheumatism (including muscular)	157.90	.....	.....	1.51	66.25	.....	3.15	4.17
16	Other constitutional diseases	26.32	.....	.....	.58	6.31	1.58	.....	.56
17	Developmental diseases	.....	.....	.....	.....	3.15	.....	.....	.21
18	Parasitic diseases	.....	.....	.....	.....	41.01	.....	.....	.70
19	Headache and neuralgia	52.63	.....	.....	.36	48.90	.....	.....	.80
20	Other diseases of the nervous system	26.32	.....	.....	.07	9.46	.....	1.58	.53
21	Diseases of the eye	.....	.....	.....	.....	11.04	.....	1.58	.50
22	Diseases of the ear	.....	.....	.....	.....	11.04	.....	.....	.39
23	Catarrhs and common colds	.....	.....	.....	.....	18.93	.....	.....	.34
24	Bronchitis	26.32	.....	.....	.14	67.82	.....	1.58	2.05
25	Pneumonia	.....	.....	.....	.....	23.66	4.73	.....	1.58
26	Pulmonary phthisis	.....	.....	.....	.....	4.73	1.58	.....	.37
27	Pleuritis	.....	.....	.....	.....	4.73	.....	.....	.15
28	Other diseases of the respiratory system	.....	.....	.....	.....	.....	.....	.....	.....
29	Diseases of the heart and valves	.....	.....	.....	.....	6.31	.....	.....	.48
30	Other diseases of the circulatory system	.....	.....	.....	.....	1.58	1.58	.....	.12
31	Tonsillitis	.....	.....	.....	.....	99.37	.....	.....	2.22
32	Dyspepsia, colic, and constipation	26.32	.....	.....	.07	82.02	.....	.....	1.03
33	Other diseases of the digestive system	52.63	.....	.....	1.73	91.48	3.15	3.15	2.11
34	Diseases of the kidneys	.....	.....	.....	.....	1.58	.....	.....	.02
35	Other diseases of the genito-urinary system (non-venereal).	105.26	.....	.....	.29	17.35	.....	.....	.68
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	11.04	.....	1.58	.54
37	Diseases of the integumentary system	.....	.....	.....	.....	82.02	.....	.....	2.02
38	All other diseases	.....	.....	.....	.....	15.77	.....	1.58	1.28
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	6.31	.....	.....	.07
41	Contusions and sprains	52.63	.....	.....	.58	83.60	.....	.....	1.11
42	Dislocations	.....	.....	.....	.....	.....	.....	.....	.....
43	Fractures (not gunshot)	.....	.....	.....	.....	6.31	.....	.....	.91
44	Incised, lacerated, contused, and punctured wounds.	.....	.....	.....	.....	29.97	.....	.....	.90
45	Shot wounds	.....	.....	.....	.....	.....	.....	.....	.....
46	All other injuries	.....	.....	.....	.....	42.59	.....	.....	1.15
	Total for disease	631.58	.....	.....	5.10	1,364.36	17.35	14.20	41.85
	Total for injuries	52.63	.....	.....	.58	168.76	.....	.....	4.13
	Total for all causes: Year 1888	684.21	.....	.....	5.68	1,533.12	17.35	14.20	45.98
	Total for all causes: Year 1887	200.00	.....	.....	2.37	1,437.28	8.71	15.68	39.53
	Total for all causes: Decade	.....	.....	.....	.....	2,131.38	7.41	65.55	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Willet's Point, N. Y.				Fort Monroe, Va.				St. Francis Barracks, St. Augustine, Fla.				In the field, Atlantic coast.				
357.	380.	210.		281.	257.	281.		66.	96.	85.		31.	15.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	28.47	3.56	3.56	4.30	.....	.....	.....	.....	.....	.....	.....	.....	1
2.80	.....	.....	.16	39.15	.....	.....	1.90	15.15	.....	.....	.33	.....	.....	.....	.....	2
207.29	.....	.....	3.95	46.26	.....	.....	.35	393.94	15.15	.....	10.47	161.29	.....	.....	1.59	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
266.11	.....	.....	3.74	249.11	.....	.....	1.75	75.76	.....	.....	.33	1,064.52	.....	.....	5.64	5
5.60	.....	.....	.37	7.12	.....	.....	.15	30.30	.....	.....	.37	225.81	.....	.....	5.64	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
22.41	.....	.....	1.64	71.17	.....	.....	3.06	.....	.....	.....	.....	32.26	.....	.....	1.85	8
42.02	.....	2.80	3.36	28.47	.....	3.56	3.54	60.61	.....	.....	.50	.....	.....	.....	.....	9
8.40	.....	.....	.43	42.70	.....	.....	1.88	.....	.....	.....	.....	.....	.....	.....	.....	10
11.20	.....	.....	.15	10.68	.....	.....	.36	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32.26	.....	.....	.18	12
134.45	.....	.....	1.04	64.06	.....	.....	.65	75.76	.....	.....	.41	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
140.06	.....	.....	4.13	96.09	.....	.....	1.80	121.21	.....	15.15	2.48	225.81	.....	.....	1.94	15
5.60	.....	2.80	.96	7.12	.....	3.56	.85	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	15.15	.....	.....	.12	.....	.....	.....	.....	18
78.43	.....	.....	1.78	81.85	.....	.....	.55	60.61	.....	.....	.75	96.77	.....	.....	.44	19
11.20	.....	.....	1.75	17.79	.....	.....	1.07	45.45	.....	15.15	2.28	.....	.....	.....	.....	20
36.41	.....	.....	1.17	42.70	.....	.....	1.66	15.15	.....	.....	.25	129.03	.....	.....	2.29	21
11.20	.....	.....	.07	21.35	.....	.....	2.14	.....	.....	.....	.....	32.26	.....	.....	1.94	22
2.80	.....	.....	.01	3.56	.....	.....	.04	.....	.....	.....	.....	.....	.....	.....	.....	23
322.13	2.80	.....	5.89	81.85	.....	.....	1.17	.....	.....	.....	.....	64.52	.....	.....	1.41	24
8.40	.....	.....	.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
5.60	.....	8.40	.89	3.56	3.56	3.56	.38	.....	.....	.....	.....	.....	.....	.....	.....	26
2.80	.....	.....	.30	3.56	.....	.....	.12	.....	.....	.....	.....	.....	.....	.....	.....	27
2.80	.....	.....	.29	7.12	.....	.....	.10	.....	.....	.....	.....	.....	.....	.....	.....	28
11.20	.....	2.80	1.97	14.23	.....	3.56	.81	.....	.....	.....	.....	.....	.....	.....	.....	29
14.01	.....	5.60	.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
19.61	.....	.....	.18	42.70	.....	.....	.53	.....	.....	.....	.....	.....	.....	.....	.....	31
176.47	.....	.....	1.25	53.38	.....	.....	.39	90.91	.....	.....	.33	225.81	.....	.....	.79	32
134.45	.....	5.60	3.21	17.79	3.56	.....	.24	151.52	.....	15.15	7.53	64.52	.....	.....	.62	33
5.60	.....	2.80	1.39	3.56	.....	.....	.07	.....	.....	.....	.....	32.26	.....	.....	1.50	34
19.61	.....	2.80	1.22	14.23	.....	.....	.25	15.15	.....	.....	.70	.....	.....	.....	.....	35
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36
22.41	.....	.....	2.17	46.26	.....	3.56	3.77	.....	.....	.....	.....	.....	.....	.....	.....	
128.85	.....	.....	3.90	99.64	.....	.....	2.44	45.45	.....	.....	1.41	64.52	.....	.....	.53	37
14.01	.....	.....	.75	78.29	.....	.....	2.70	30.30	.....	.....	.21	.....	.....	.....	.....	38
.....	2.80	.....	.....	.....	.....	.....	.....	15.15	.....	.....	3.35	.....	.....	.....	.....	39
5.60	.....	.....	.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
232.49	.....	.....	6.43	103.20	.....	.....	2.71	75.76	.....	.....	2.03	32.26	.....	.....	.26	41
5.60	.....	.....	.09	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
11.20	.....	.....	1.98	14.23	.....	.....	1.53	.....	.....	.....	.....	.....	.....	.....	.....	43
58.82	.....	.....	2.59	49.82	.....	.....	3.23	30.30	.....	.....	.46	.....	.....	.....	.....	44
.....	.....	.....	.....	7.12	.....	.....	1.96	.....	.....	.....	.....	.....	.....	.....	.....	45
56.02	2.80	.....	1.36	17.79	.....	.....	.30	15.15	.....	.....	.25	.....	.....	.....	.....	46
1,873.95	2.80	33.61	48.83	1,323.84	10.68	21.35	38.50	1,242.43	15.15	45.45	28.48	2,451.61	.....	.....	26.35	
369.75	5.60	.....	12.76	192.17	.....	.....	9.73	136.36	.....	.....	6.09	32.26	.....	.....	.26	
2,243.70	8.40	33.61	61.59	1,516.01	10.68	21.35	48.24	1,378.79	15.15	45.45	34.57	2,483.87	.....	.....	26.62	
2,342.13	10.52	47.37	54.50	1,400.78	11.67	15.56	41.67	1,718.75	.....	62.50	40.95	1,000.00	.....	.....	4.39	
2,003.80	10.93	12.83	.....	1,322.76	7.84	24.94	.....	1,593.64	14.13	29.44	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Eastern Timbered Plains and Hills.			
	Mean strength, respectively, for years 1888, 1887, and decade.	1,228.	917.	988.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.81			.14
2	Other specific contagious and infectious diseases, including erysipelas.	21.17			.49
3	Malarial fevers and resulting conditions	161.24			2.93
4	Typho-malarial fever				
5	Diarrhœa, including cholera morbus	117.26			.92
6	Dysentery	10.59	.81		.31
7	Other miasmatic diseases				
8	Gonorrhœa and results	26.87			1.31
9	Syphilis and results	25.24		1.63	1.93
10	Other venereal diseases	12.21			.86
11	Vaccina	5.70			.12
12	Other enthetic diseases	.81			.03
13	Alcoholism	28.50			.35
14	Other dietic diseases	.81			.04
15	Rheumatism (including muscular)	75.73			2.08
16	Other constitutional diseases	1.63			.04
17	Developmental diseases			.81	
18	Parasitic diseases	1.63			.08
19	Headache and neuralgia	45.60			.54
20	Other diseases of the nervous system	17.10		.81	.73
21	Diseases of the eye	30.94		.81	1.13
22	Diseases of the ear	7.33		.81	.13
23	Catarrhs and common colds	35.02			.24
24	Bronchitis	149.02			2.51
25	Pneumonia	4.07	2.44		.19
26	Pulmonary phthisis	1.63			.05
27	Pleuritis	3.26			.28
28	Other diseases of the respiratory system	3.26		1.63	.30
29	Diseases of the heart and valves	7.33	.81	1.63	1.14
30	Other diseases of the circulatory system	2.44		2.44	.18
31	Tonsillitis	17.92			.21
32	Dyspepsia, colic, and constipation	56.19			.66
33	Other diseases of the digestive system	83.88	1.63	1.63	2.65
34	Diseases of the kidneys	1.63	.81		.32
35	Other diseases of the genito-urinary system (non-venereal).	20.36		1.63	.67
36	Diseases of the locomotor system (excluding muscular rheumatism).	3.26		1.63	.26
37	Diseases of the integumentary system	57.82			.87
38	All other diseases	10.59			.60
39	Heat-stroke	1.63			.01
40	Frost-bite and general freezing	.81			.02
41	Contusions and sprains	92.83		.81	2.35
42	Dislocations	1.63			.05
43	Fractures (not gunshot)	2.44		.81	.34
44	Incised, lacerated, contused, and punctured wounds.	32.57			.68
45	Shot wounds	1.63		.81	.20
46	All other injuries	27.69	.81	.81	.96
	Total for disease	1,048.86	6.51	15.47	25.29
	Total for injuries	161.24	.81	3.26	4.61
	Total for all causes (Year 1888)	1,210.10	7.33	18.73	29.90
	Total for all causes (Year 1887)	1,427.48	9.81	16.36	35.11
	Total for all causes (Decade)	1,697.14	9.82	25.10	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Kennebec Arsenal, Me.				Springfield Armory, Mass.				West Point, N. Y.				
18.	16.	—.		32.	40.	—.		340.	328.	393.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
								2.94			.13	2
55.56			.15	93.75			2.13	167.65			2.94	3
												4
55.56			.15	125.00			.85	82.35			.60	5
								17.65			.23	6
												7
								2.94			.06	8
								2.94			.30	9
												10
												11
												12
				62.50			.43	5.88			.06	13
												14
222.22			.76	62.50			6.40	88.24			2.22	15
												16
												17
												18
111.11			.30					23.53			.39	19
								17.65		2.94	.38	20
55.56			.15					35.29			.62	21
								2.94			.01	22
1,333.33			9.26	31.25			.17					23
55.56			1.52	156.25			.94	252.94			3.58	24
								5.88	5.88		.11	25
								2.94			.11	26
								5.88			.06	27
								2.94		2.94	.26	28
								2.94			.30	29
								2.94		5.88	.25	30
111.11			.46					20.59			.15	31
333.33			1.52	62.50			.51	44.12			.39	32
722.22			2.28	125.00			.68	58.82			1.86	33
									2.94		.51	34
111.11			.91	31.25			.77	26.47		5.88	.90	35
								5.88			.29	36
				31.25			.26	70.59			.98	37
55.56			1.37					2.94			.05	38
								2.94			.02	39
								2.94			.06	40
333.33			1.52	93.75			.68	91.18			2.55	41
												42
								2.94			.21	43
55.56			.15	31.25			.17	41.18			1.00	44
												45
166.66			.61	31.25			.17	35.29	2.94		.45	46
3,222.22			18.82	781.25			13.15	955.88	8.82	17.65	17.72	
555.56			2.28	156.25			1.02	176.47	2.94		4.28	
3,777.78			21.10	937.50			14.17	1,132.35	11.76	17.65	22.00	
2,500.00			27.06	1,100.00	25.00		23.42	1,125.00	6.10	3.05	22.69	
								817.28	4.07	7.88		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Frankford Arsenal, Pa.			
	Mean strength, respectively, for years 1888, 1887, and decade.	33.	34.	34.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever				
2	Other specific contagious and infectious diseases, including erysipelas.				
3	Malarial fevers and resulting conditions	90.91			1.82
4	Typho-malarial fever				
5	Diarrhea, including cholera morbus	30.30			.25
6	Dysentery				
7	Other miasmatic diseases				
8	Gonorrhœa and results	30.30			.83
9	Syphilis and results				
10	Other venereal diseases				
11	Vaccina				
12	Other enthetic diseases				
13	Alcoholism				
14	Other dietic diseases				
15	Rheumatism (including muscular)	121.21			3.64
16	Other constitutional diseases				
17	Developmental diseases				
18	Parasitic diseases				
19	Headache and neuralgia				
20	Other diseases of the nervous system				
21	Diseases of the eye				
22	Diseases of the ear				
23	Catarrhs and common colds				
24	Bronchitis	30.30			1.16
25	Pneumonia				
26	Pulmonary phthisis				
27	Pleuritis				
28	Other diseases of the respiratory system				
29	Diseases of the heart and valves			30.30	9.11
30	Other diseases of the circulatory system				
31	Tonsillitis				
32	Dyspepsia, colic, and constipation				
33	Other diseases of the digestive system	30.30			.83
34	Diseases of the kidneys				
35	Other diseases of the genito-urinary system (non-venereal)				
36	Diseases of the locomotor system (excluding muscular rheumatism).				
37	Diseases of the integumentary system				
38	All other diseases				
39	Heat stroke				
40	Frost-bite and general freezing				
41	Contusions and sprains	30.30			.25
42	Dislocations				
43	Fractures (not gunshot)				
44	Incised, lacerated, contused, and punctured wounds	30.30			.66
45	Shot wounds				
46	All other injuries	30.30			.25
	Total for disease	333.33		30.30	17.64
	Total for injuries	90.91			1.16
	Total for all causes: Year 1888	424.24			18.79
	Total for all causes: Year 1887	1,000.00	29.41		29.26
	Total for all causes: Decade	905.04	11.87	8.90	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Philadelphia, Pa.				Baltimore (attending surgeon), Md.				Fort McHenry, Md.				
18.	20.	—.		16.	—.	—.		113.	117.	133.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
								53.10			1.77	2
								150.44			5.34	3
												4
								176.99			2.20	5
								17.70			.82	6
												7
								115.04			5.54	8
								53.10		8.85	3.17	9
								44.25			2.71	10
												11
												12
								44.25			.99	13
												14
								35.40			5.49	15
												16
												17
								8.85			.75	18
								115.04			1.45	19
								35.40			2.30	20
								115.04			7.47	21
								17.70		8.85	1.02	22
												23
								97.34			3.87	24
								8.85	8.85		.51	25
												26
												27
								8.85			2.22	28
								35.40		8.85	6.14	29
												30
								35.40			.58	31
								8.85			.05	32
								79.65			2.64	33
												34
								8.85			.07	35
												36
								26.55			1.38	37
								8.85			.29	38
												39
												40
								26.55			1.52	41
												42
												43
								35.40			.70	44
												45
								44.25			2.01	46
								1,300.88	8.85	26.55	58.76	
								106.19			4.23	
								1,407.08	8.85	26.55	62.99	
								1,632.48	25.64	42.74	59.67	
								2,049.70	13.55	30.12		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Washington Barracks, D. C.				Fort Myer, Va.			
	Mean strength, respectively, for years 1888, 1887, and decade.	264.	267.	191.		138.	64.	63.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.07	7.25	.....	.....	1.13
2	Other specific contagious and infectious diseases, including erysipelas.	15.15	.....	.....	.81	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	303.03	.....	.....	5.23	239.13	.....	.....	3.21
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	174.24	.....	.....	1.55	137.68	.....	.....	.55
6	Dysentery	7.58	.....	.....	.10	14.49	.....	.....	.14
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	45.45	.....	.....	2.65	43.48	.....	.....	1.74
9	Syphilis and results	87.12	.....	3.79	6.43	7.25	.....	.....	1.56
10	Other venereal diseases	15.15	.....	.....	1.88	43.48	.....	.....	1.82
11	Vaccina	7.58	.....	.....	.38	36.23	.....	.....	.38
12	Other entheticdiseases	3.79	.....	.....	.16	.....	.....	.....	.....
13	Alcoholism	83.33	.....	.....	.92	28.99	.....	.....	.30
14	Other dietic diseases	3.79	.....	.....	.19	.....	.....	.....	.....
15	Rheumatism (including muscular)	140.15	.....	.....	2.29	50.72	.....	.....	1.15
16	Other constitutional diseases	3.79	.....	.....	.05	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	7.25	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	18.94	.....	.....	.27	50.72	.....	.....	.65
20	Other diseases of the nervous system.	22.73	.....	.....	.75	.....	.....	.....	.....
21	Diseases of the eye	18.94	.....	3.79	1.01	21.74	.....	.....	.16
22	Diseases of the ear	.....	.....	.....	.....	7.25	.....	.....	.02
23	Catarrhs and common colds	.....	.....	.....	.....	.....	.....	.....	.....
24	Bronchitis	238.64	.....	.....	4.41	86.96	.....	.....	.46
25	Pneumonia	7.58	.....	.....	.54	.....	.....	.....	.....
26	Pulmonary phthisis	3.79	.....	.....	.10	.....	.....	.....	.....
27	Pleuritis	3.79	.....	.....	1.07	.....	.....	.....	.....
28	Other diseases of the respiratory system.	7.58	.....	.....	.10	.....	.....	7.25	.....
29	Diseases of the heart and valves	3.79	.....	.....	.01	14.49	.....	.....	.51
30	Other diseases of the circulatory system.	7.58	.....	3.79	.51	.....	.....	.....	.....
31	Tonsillitis	11.36	.....	.....	.18	.....	.....	.....	.....
32	Dyspepsia, colic, and constipation.	60.61	.....	.....	1.51	43.48	.....	.....	.28
33	Other diseases of the digestive system	87.12	.....	3.79	4.88	86.96	.....	7.25	1.90
34	Diseases of the kidneys	.....	.....	.....	.....	7.25	.....	.....	1.48
35	Other diseases of the genito-urinary system (non-venereal).	30.30	.....	.....	1.38	7.25	.....	.....	.30
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	14.49	.....	14.49	1.64
37	Diseases of the integumentary system.	102.27	.....	.....	1.23	72.46	.....	.....	1.33
38	All other diseases	22.73	.....	.....	1.40	14.49	.....	.....	1.56
39	Heat-stroke	.....	.....	.....	.....	7.25	.....	.....	.04
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	94.70	.....	.....	3.95	268.12	.....	.....	4.45
42	Dislocations	3.79	.....	.....	.16	7.25	.....	.....	.18
43	Fractures (not gunshot)	7.58	.....	.....	.37	.....	.....	.....	1.78
44	Incised, lacerated, contused, and punctured wounds.	49.24	.....	.....	1.09	43.48	.....	.....	.73
45	Shot wounds	3.79	.....	.....	.39	.....	.....	.....	.....
46	All other injuries	26.52	.....	.....	.19	28.99	.....	7.25	5.25
	Total for disease	1,537.88	.....	15.15	42.05	1,036.23	.....	36.23	22.27
	Total for injuries	185.61	.....	.....	6.15	355.07	.....	7.25	12.43
	Total for all causes (Year 1888.)	1,723.48	.....	15.15	48.20	1,391.30	.....	43.48	34.71
	Total for all causes (Year 1887.)	1,767.79	3.75	14.98	45.54	2,093.75	15.62	62.50	41.74
	Total for all causes (Decade)	1,878.14	11.51	32.43	.....	2,694.75	4.77	12.72	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Washington (attending surgeon), D. C.				Augusta Arsenal, Ga.				In the field, Eastern Timbered Plains and Hills.				
219.	—.	—.		27.	27.	23.		10.	4.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
63.93			.60	37.04			.71					2
9.13			.06	74.07			.91					3
												4
91.32			.54					500.00			3.01	5
4.57	4.57		.74									6
												7
												8
												9
												10
												11
												12
												13
												14
18.26			.29	37.04			.61					15
4.57			.17									16
												17
4.57			.04									18
91.32			.86	37.04			.20					19
22.83			1.40									20
13.70			.15					100.00			.55	21
18.26			.16	37.04			.20					22
82.19			.59									23
13.70			.19	37.04			2.53					24
												25
												26
4.57			.17									27
												28
4.57	4.57		1.06									29
												30
27.40			.37									31
100.46			.87	37.04			.10					32
95.89	9.13		3.09									33
				37.04			.51					34
				111.11			2.23					35
												36
9.13			.09	74.07			.81	200.00			1.91	37
9.13			.36									38
												39
												40
31.96			.61					100.00			.27	41
												42
												43
												44
				37.04			5.06					45
4.57			.01									46
689.50	18.26		11.80	518.52			8.80	800.00			5.46	
36.53			.62	37.04			5.06	100.00			.27	
726.03	18.26		12.43	555.56			13.86	900.00			5.74	
				703.70		37.04	20.80	1,500.00			5.48	
				1,955.75	8.85	4.42						

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Appalachian Mountains.			
	Mean strength, respectively, for years 1888, 1887, and decade.	137.	68.	133.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever				.06
2	Other specific contagious and infectious diseases, including erysipelas.				
3	Malarial fevers and resulting conditions	233.58			12.52
4	Typho-malarial fever				
5	Diarrhœa, including cholera morbus	204.38			3.21
6	Dysentery	21.90			.20
7	Other miasmatic diseases				
8	Gonorrhœa and results	29.20			.96
9	Syphilis and results				
10	Other venereal diseases	7.30			1.36
11	Vaccina				
12	Other enthetic diseases				
13	Alcoholism	21.90			.14
14	Other dietic diseases				
15	Rheumatism (including muscular)	43.80			3.31
16	Other constitutional diseases	7.30			.14
17	Developmental diseases				
18	Parasitic diseases	7.30			.16
19	Headache and neuralgia	43.80			.84
20	Other diseases of the nervous system	7.30			.02
21	Disease of the eye				
22	Disease of the ear				
23	Catarrhs and common colds	7.30			.08
24	Bronchitis	65.69			1.95
25	Pneumonia				
26	Pulmonary phthisis				
27	Pleuritis				
28	Other diseases of the respiratory system	7.30			.34
29	Disease of the heart and valves	7.30			1.66
30	Other diseases of the circulatory system	7.30			.52
31	Tonsillitis	21.90			.54
32	Dyspepsia, colic, and constipation	29.20			.14
33	Other diseases of the digestive system	43.80		7.30	8.14
34	Disease of the kidneys				
35	Other diseases of the genito-urinary system (non-venereal).	14.60			2.31
36	Diseases of the locomotor system (excluding muscular rheumatism).				.06
37	Diseases of the integumentary system	29.20			.50
38	All other diseases	7.30			.06
39	Heat-stroke	14.60			.06
40	Frost-bite and general freezing				
41	Contusions and sprains	131.39			4.67
42	Dislocations	7.30			2.23
43	Fractures (not gunshot)	14.60			2.13
44	Incised, lacerated, contused, and punctured wounds	36.50			1.42
45	Shot wounds				
46	All other injuries	43.80			.68
	Total for disease	868.61		7.30	39.21
	Total for injuries	248.18			11.19
	Total for all causes: Year 1888	1,116.79		7.30	50.40
	Total for all causes: Year 1887	1,250.00	44.12		26.07
	Total for all causes: Decade	1,468.37	9.79	8.28	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Watervliet Arsenal, N. Y.				Allegheny Arsenal, Pa.				Monte Sano Camp, Ala.				
54.	40.	34.		29.	28.	35.		54.	—.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.15	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
129.63	.....	.....	1.21	34.48	.....	.....	1.04	444.44	.....	.....	30.00	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
111.11	.....	.....	3.34	68.97	.....	.....	.75	370.37	.....	.....	4.40	5
.....	.....	.....	.....	.....	.....	.....	.....	55.56	.....	.....	.51	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	.....	.....	.....	.....	.....	74.07	.....	.....	2.43	8
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
.....	.....	.....	2.88	.....	.....	.....	.....	18.52	.....	.....	.56	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
.....	.....	.....	.....	68.97	.....	.....	.38	18.52	.....	.....	.15	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
18.52	.....	.....	.15	34.48	.....	.....	1.70	74.07	.....	.....	7.34	15
.....	.....	.....	.....	.....	.....	.....	.....	18.52	.....	.....	.35	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	18.52	.....	.....	.40	18
18.52	.....	.....	.15	68.97	.....	.....	2.45	55.56	.....	.....	.66	19
.....	.....	.....	.....	.....	.....	.....	.....	18.52	.....	.....	.05	20
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
.....	.....	.....	.....	.....	.....	.....	.....	18.52	.....	.....	.20	23
74.07	.....	.....	1.92	.....	.....	.....	.....	92.59	.....	.....	3.04	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	34.48	.....	.....	1.60	.....	.....	.....	.....	28
.....	.....	.....	1.57	.....	.....	.....	.....	18.52	.....	.....	2.63	29
18.52	.....	.....	1.32	.....	.....	.....	.....	.....	.....	.....	.....	30
18.52	.....	.....	.15	.....	.....	.....	.09	37.04	.....	.....	1.16	31
.....	.....	.....	.....	34.48	.....	.....	.19	55.56	.....	.....	.25	32
18.52	.....	7.30	18.27	103.45	.....	.....	1.79	37.04	.....	.....	1.42	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
.....	.....	.....	.....	.....	.....	.....	.....	37.04	.....	.....	5.87	35
.....	.....	.....	.....	.....	.....	.....	.28	.....	.....	.....	.....	36
18.52	.....	.....	.25	69.97	.....	.....	1.04	18.52	.....	.....	.46	37
.....	.....	.....	.....	34.48	.....	.....	.28	.....	.....	.....	.....	38
.....	.....	.....	.....	.....	.....	.....	.....	37.04	.....	.....	.15	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
92.59	.....	.....	1.92	137.93	.....	.....	3.01	166.67	.....	.....	8.30	41
.....	.....	.....	.....	.....	.....	.....	.....	18.52	.....	.....	5.67	42
18.52	.....	.....	.56	34.48	.....	.....	9.04	.....	.....	.....	.....	43
37.04	.....	.....	.81	34.48	.....	.....	1.51	37.04	.....	.....	1.97	44
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
37.04	.....	.....	.61	34.48	.....	.....	.38	55.56	.....	.....	.91	46
425.93	.....	7.30	31.37	551.72	.....	.....	11.59	1,481.48	.....	.....	61.88	
185.19	.....	.....	3.90	241.38	.....	.....	13.94	314.81	.....	.....	17.00	
611.11	.....	7.30	35.27	793.10	.....	.....	25.53	1,796.30	.....	.....	78.88	
1,525.00	25.00	.....	32.67	857.14	71.43	.....	16.63	.....	.....	.....	.....	
1,463.13	14.75	2.95	.....	1,049.13	8.67	5.78	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Northern Lakes.			
	Mean strength, respectively, for years 1888, 1887, and decade.	1,303. 1,207. 931.			
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	7.67	.77	.....	.87
2	Other specific contagious and infectious diseases, including erysipelas.	23.02	.....	.....	.75
3	Malarial fevers and resulting conditions	26.86	.....	.....	.65
4	Typho-malarial fever	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	91.33	.....	.....	.84
6	Dysentery	1.53	.....	.....	.34
7	Other miasmatic diseases	.77	.....	.....	.04
8	Gonorrhœa and results	35.30	.....	.77	1.66
9	Syphilis and results	24.56	.....	.77	1.33
10	Other venereal diseases	15.35	.....	.....	.77
11	Vaccina	7.67	.....	.....	.21
12	Other enthetic diseases	3.84	.....	.....	.21
13	Alcoholism	48.35	.77	.....	.51
14	Other dietic diseases	.77	.....	.....	.05
15	Rheumatism (including muscular)	60.63	.....	.77	3.39
16	Other constitutional diseases	6.14	.....	.....	.15
17	Developmental diseases	.....	.....	.77	.....
18	Parasitic diseases	2.30	.....	.....	.03
19	Headache and neuralgia	39.14	.....	.77	1.02
20	Other diseases of the nervous system	10.74	.77	1.53	.99
21	Diseases of the eye	22.26	.....	.....	1.14
22	Diseases of the ear	3.84	.....	.....	.40
23	Catarrh and common colds	54.49	.....	.....	.59
24	Bronchitis	54.49	.....	.....	.73
25	Pneumonia	3.07	.....	.....	.36
26	Pulmonary phthisis	3.07	.....	1.53	.44
27	Pleuritis	3.07	.....	.....	.12
28	Other diseases of the respiratory system	7.67	.....	.....	.35
29	Diseases of the heart and valves	9.21	.77	4.60	.87
30	Other diseases of the circulatory system	.....	.....	.....	.....
31	Tonsillitis	37.61	.....	.....	.58
32	Dyspepsia, colic, and constipation	52.19	.....	.....	.58
33	Other diseases of the digestive system	42.21	.....	1.53	1.08
34	Diseases of the kidneys	1.53	.....	.....	.44
35	Other diseases of the genito-urinary system (non-venereal).	13.05	.....	.77	.63
36	Diseases of the locomotor system (excluding muscular rheumatism).	3.07	.....	.....	.06
37	Diseases of the integumentary system	64.47	.....	.77	1.52
38	All other diseases	18.42	.....	.....	.80
39	Heat-stroke	.....	.....	.....	.....
40	Frost-bite and general freezing	5.37	.....	.77	.18
41	Contusions and sprains	117.42	.....	.....	2.77
42	Dislocations	3.84	.....	.....	.12
43	Fractures (not gunshot)	2.30	.....	1.53	.71
44	Incised, lacerated, contused, and punctured wounds	54.49	.....	.77	1.51
45	Shot wounds	2.30	.....	.77	.67
46	All other injuries	44.51	3.07	.....	.75
	Total for disease	799.69	3.07	14.58	24.52
	Total for injuries	230.24	3.07	3.84	6.72
	Total for all causes (Year 1888)	1,029.93	6.14	18.42	31.24
	Total for all causes (Year 1887)	892.29	9.11	20.71	25.72
	Total for all causes (Decade)	1,302.12	9.13	28.35	.....

therein, the causes and ratios per 1,000 *of means trength, etc.*—Continued.

Fort Brady, Mich.				Fort Mackinac, Mich.				Fort Wayne, Mich.				
75. 72. 67.				80. 73. 67.				179. 166. 157.				
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	12.50	.....	.....	.85	16.76	5.59	.....	2.40	1
26.67	.....	.....	.58	.....	.....	.....	.....	16.76	.....	.....	.27	2
40.00	.....	.....	.18	12.50	.....	.....	.68	55.87	.....	.....	2.43	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
253.33	.....	.....	1.75	100.00	.....	.....	.68	111.73	.....	.....	.92	5
.....	.....	.....	.....	12.50	.....	.....	.17	.....	.....	.....	.....	6
.....	.....	.....	.....	12.50	.....	.....	.65	.....	.....	.....	.....	7
13.33	.....	.....	1.31	125.00	.....	12.50	4.64	61.45	.....	.....	2.78	8
26.67	.....	.....	.29	12.50	.....	.....	.27	72.63	.....	.....	3.30	9
13.33	.....	.....	.07	.....	.....	.....	.....	33.52	.....	.....	1.37	10
.....	.....	.....	.....	12.50	.....	.....	.07	16.76	.....	.....	.58	11
13.33	.....	.....	2.33	12.50	.....	.....	.03	.....	.....	.....	.....	12
146.67	.....	.....	1.53	112.50	.....	.....	1.20	27.93	5.59	.....	.49	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
40.00	.....	.....	4.99	87.50	.....	.....	1.09	78.21	.....	.....	1.89	15
13.33	.....	.....	.11	12.50	.....	.....	.38	11.17	.....	.....	.44	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
26.67	.....	.....	.29	12.50	.....	.....	.24	.....	.....	.....	.....	18
40.00	.....	.....	.47	75.00	.....	.....	1.23	50.28	.....	.....	1.53	19
.....	.....	.....	.....	.....	.....	.....	.....	5.59	.....	.....	.02	20
.....	.....	.....	.....	12.50	.....	.....	.03	78.21	.....	.....	5.46	21
.....	.....	.....	.....	.....	.....	.....	.....	5.59	.....	.....	1.77	22
.....	.....	.....	.....	12.50	.....	.....	.03	5.59	.....	.....	.05	23
120.00	.....	.....	1.17	62.50	.....	.....	.58	83.80	.....	.....	1.07	24
.....	.....	.....	.....	12.50	.....	.....	.82	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	5.59	.....	.....	.37	26
13.33	.....	.....	.07	.....	.....	.....	.....	11.17	.....	.....	.53	27
.....	.....	.....	.....	25.00	.....	.....	.17	11.17	.....	.....	.56	28
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
26.67	.....	.....	.36	37.50	.....	.....	.27	50.28	.....	.....	.69	31
200.00	.....	.....	1.60	37.50	.....	.....	.17	39.11	.....	.....	1.08	32
40.00	.....	.....	.29	50.00	.....	.....	.44	22.35	.....	.....	1.13	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
13.33	.....	.....	.58	37.50	.....	.....	1.61	22.35	.....	.....	.56	35
.....	.....	.....	.....	25.00	.....	.....	.48	5.59	.....	.....	.14	36
93.33	.....	.....	2.73	62.50	.....	.....	.48	89.38	.....	.....	1.50	37
.....	.....	.....	.....	12.50	.....	.....	.07	16.76	.....	.....	.93	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	12.50	.....	.....	.03	.....	.....	.....	.....	40
280.00	.....	.....	4.92	75.00	.....	.....	1.16	117.32	.....	.....	2.64	41
.....	.....	.....	.....	12.50	.....	.....	.17	.....	.....	.....	.....	42
13.33	.....	.....	.91	12.50	.....	12.50	4.78	.....	.....	.....	.....	43
40.00	.....	.....	.36	162.50	.....	.....	1.95	61.45	.....	.....	.81	44
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
53.33	.....	.....	.84	50.00	.....	.....	.48	100.56	.....	.....	1.66	46
1,160.00	.....	.....	20.73	1,000.00	.....	12.50	17.35	1,005.59	11.17	.....	34.24	
386.67	.....	.....	7.03	325.00	.....	12.50	8.57	279.33	.....	.....	5.11	
1,546.67	.....	.....	27.76	1,325.00	.....	25.00	25.92	1,284.92	11.17	.....	39.35	
1,500.00	.....	.....	22.90	986.30	13.70	54.80	30.48	1,427.71	24.09	24.09	36.13	
965.82	5.94	17.83	.....	1,485.16	7.42	25.22	.....	1,351.85	7.67	19.80	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	St. Paul, Minn.				Fort Snelling, Minn.			
	Mean strength, respectively, for years 1888, 1887, and decade.	37.	29.	—.		299.	300.	262.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	....	.....	.....	10.03	.....	.....	1.50
2	Other specific contagious and infectious diseases, including erysipelas.	.....	....	.....	.....	13.38	.....	.....	.49
3	Malarial fevers and resulting conditions.	.....	....	.....	.....	10.03	.....	.....	.10
4	Typho-malarial fever	.....	....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	.....	....	.....	.....	86.96	.....	.....	1.21
6	Dysentery	.....	....	.....	.....	3.34	.....	.....	1.45
7	Other miasmatic diseases	.....	....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	....	.....	.....	23.41	.....	.....	1.74
9	Syphilis and results	.....	....	.....	.....	13.38	.....	.....	1.51
10	Other venereal diseases	.....	....	.....	.....	6.69	.....	.....	.19
11	Vaccina	.....	....	.....	.....	3.34	.....	.....	.09
12	Other enthetic diseases	.....	....	.....	.....	3.34	.....	.....	.19
13	Alcoholism	.....	....	.....	.....	20.07	.....	.....	.13
14	Other dietic diseases	.....	....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	.....	....	.....	.....	40.13	.....	.....	1.42
16	Other constitutional diseases	.....	....	.....	.....	.....	.....	.....	.....
17	Developmental diseases	.....	....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	.....	....	.....	.....	43.48	.....	.....	.37
20	Other diseases of the nervous system	.....	....	.....	.....	20.07	3.34	3.34	.58
21	Diseases of the eye	.....	....	.....	.....	6.69	.....	.....	.05
22	Diseases of the ear	.....	....	.....	.....	3.34	.....	.....	.06
23	Catarrhs and common colds	.....	....	.....	.....	6 69	.....	.....	.06
24	Bronchitis	.....	....	.....	.....	36.79	.....	.....	.69
25	Pneumonia	.....	....	.....	.....	.....	.....	.....	.16
26	Pulmonary phthisis	.....	....	.....	.....	.....	.....	.....	.....
27	Pleuritis	.....	....	.....	.....	3.34	.....	.....	.21
28	Other diseases of the respiratory system	.....	....	.....	.....	10.03	.....	.....	.10
29	Diseases of the heart and valves	27.03	....	27.03	3.03	26.76	3.34	10.03	2.62
30	Other diseases of the circulatory system	.....	....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	.....	....	.....	.....	46.82	.....	.....	.59
32	Dyspepsia, colic, and constipation	.....	....	.....	.....	30.10	.....	.....	.37
33	Other diseases of the digestive system	.....	....	.....	.....	23.41	.....	3.34	.97
34	Diseases of the kidneys	.....	....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	.....	....	.....	.....	3.34	.....	3.34	.30
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	....	.....	.....	.....	.....	.....	.....
37	Diseases of the integumentary system	.....	....	.....	.....	76.92	.....	.....	1.96
38	All other diseases	.....	....	.....	.....	26.76	.....	.....	1.99
39	Heat-stroke	.....	....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	....	.....	.....	16.72	.....	3.34	.70
41	Contusions and sprains	.....	....	.....	.....	137.12	.....	.....	4.51
42	Dislocations	.....	....	.....	.....	3.34	.....	.....	.03
43	Fractures (not gunshot)	.....	....	.....	.....	3.34	.....	3.34	1.61
44	Incised, lacerated, contused, and punctured wounds.	.....	....	.....	.....	50.17	.....	3.34	2.55
45	Shot wounds	.....	....	.....	.....	6.69	.....	3.34	1.96
46	All other injuries	.....	....	.....	.....	36.79	3.34	.....	.93
	Total for disease	27.03	....	27.03	3.03	598.67	6.69	20.07	21.10
	Total for injuries	.....	....	.....	.....	254.18	3.34	13.38	12.29
	Total for all causes (Year 1888)	27.03	....	27.03	3.03	852.85	10.03	33.44	33.39
	Total for all causes (Year 1887)	34.48	....	.....	.09	646.67	6.67	36.67	23.41
	Total for all causes (Decade)	.....	....	.....	.....	1,451.18	8.77	33.18	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Plattsburgh Barracks, N. Y.				Madison Barracks, N. Y.				Fort Ontario, N. Y.				
46.	41.	48.		230.	225.	126.		48.	41.	29.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	13.04	.....	.....	.82	.....	.....	.....	.....	1
21.74	.....	.....	.24	73.91	.....	.....	2.57	20.83	.....	.....	1.08	2
.....	.....	.....	.....	34.78	.....	.....	.94	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
86.96	.....	.....	.71	108.70	.....	.....	1.09	145.83	.....	.....	1.08	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	.....	30.43	.....	.....	1.32	104.17	.....	.....	3.59	8
.....	.....	.....	.....	4.35	.....	4.35	.24	145.83	.....	.....	7.29	9
.....	.....	.....	.....	4.35	.....	.....	.10	.....	.....	.....	.....	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	4.35	.....	.....	.05	.....	.....	.....	.....	12
86.96	.....	.....	.95	69.56	.....	.....	.74	145.83	.....	.....	1.54	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
86.96	.....	.....	2.73	69.56	.....	.....	10.42	83.33	.....	.....	.68	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
43.48	.....	.....	1.72	34.78	.....	.....	.65	20.83	.....	.....	.17	19
.....	.....	.....	.....	8.70	.....	.....	.06	20.83	.....	.....	.17	20
43.48	.....	.....	.65	13.04	.....	.....	.20	41.67	.....	.....	.40	21
.....	.....	.....	.....	4.35	.....	.....	.07	.....	.....	.....	.....	22
.....	.....	.....	.....	286.95	.....	.....	3.12	.....	.....	.....	.17	23
43.48	.....	.....	.36	43.48	.....	.....	.71	.....	.....	.....	.....	24
21.74	.....	.....	1.07	4.35	.....	.....	.80	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
.....	.....	.....	.....	4.35	.....	.....	.13	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
21.74	.....	.....	.30	30.43	.....	.....	.71	62.50	.....	.....	1.20	31
43.48	.....	.....	.12	47.83	.....	.....	.45	62.50	.....	.....	.57	32
43.48	.....	.....	.30	56.52	.....	.....	1.20	208.33	.....	.....	2.90	33
.....	.....	.....	.....	4.35	.....	.....	.15	20.83	.....	.....	11.33	34
21.74	.....	.....	.06	8.70	.....	.....	.63	83.33	.....	.....	6.03	35
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36
130.43	.....	21.74	7.90	47.83	.....	.....	1.13	20.83	.....	.....	.40	37
21.74	.....	.....	.18	30.43	.....	.....	.45	20.83	.....	.....	.74	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	20.83	.....	.....	.57	40
65.22	.....	.....	.48	126.09	.....	.....	2.46	104.17	.....	.....	2.56	41
21.74	.....	.....	1.43	4.35	.....	.....	.18	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
.....	.....	.....	.....	82.61	.....	.....	2.85	41.67	.....	.....	.51	44
.....	.....	.....	.....	4.35	.....	.....	1.23	.....	.....	.....	.....	45
43.48	.....	.....	.30	65.22	13.04	.....	1.03	20.83	.....	.....	.23	46
717.39	.....	21.74	17.28	1,039.13	.....	4.35	28.75	1,208.33	.....	.....	39.33	
130.43	.....	.....	2.20	282.61	13.04	.....	7.76	187.50	.....	.....	3.87	
847.83	.....	21.74	19.48	1,321.74	13.04	4.35	36.51	1,395.83	.....	.....	43.20	
634.15	.....	.....	25.12	937.78	8.89	8.89	29.59	1,073.17	24.39	24.39	34.35	
1,234.44	12.45	26.97	.....	1,458.47	9.50	34.05	.....	1,181.82	10,49	48.95	.....	

TABLE XIII.—*Showing, for each region and each military statio*

	Names of regions and military stations.	Fort Niagara, N. Y.				Fort Porter, N. Y.			
	Mean strength, respectively, for years 1888, 1887, and decade.	92.	87.	57.		77.	75.	78.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	.....	.....	.....	.....	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	43.48	.....	.....	.42	38.96	.....	.....	.35
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	21.74	.....	.....	.09	12.99	.....	.....	04
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	.....	.....	.....	.....
9	Syphilis and results	.....	.....	.....	.....	12.99	.....	.....	1.49
10	Other venereal diseases	.....	.....	.....	.....	116.88	.....	.....	7.59
11	Vaccina	21.74	.....	.....	.33	38.96	.....	.....	1.35
12	Other enthetic diseases	.....	.....	.....	.....	.....	.....	.....	.....
13	Alcoholism	32.61	.....	.....	.27	.....	.....	.....	.....
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	.....	.....	.....	.....	64.94	.....	.....	1.28
16	Other constitutional diseases	10.87	.....	.....	.21	.....	.....	.....	.....
17	Developmental diseases	.....	.....	10.87	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	10.87	.....	.....	.24	103.90	.....	12.99	7.17
20	Other diseases of the nervous system	32.61	.....	.....	11.23	12.99	.....	12.99	.71
21	Diseases of the eye	21.74	.....	.....	.27	.....	.....	.....	.....
22	Diseases of the ear	10.87	.....	.....	.18	12.99	.....	.....	2.02
23	Catarrhs and common colds	.....	.....	.....	.....	.....	.....	.....	.....
24	Bronchitis	21.74	.....	.....	.33	90.91	.....	.....	1.77
25	Pneumonia	.....	.....	.....	.....	12.99	.....	.....	1.67
26	Pulmonary phthisis	21.74	.....	10.87	4.60	.....	.....	.....	.....
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.....
28	Other diseases of the respiratory system.	.....	.....	.....	.....	38.96	.....	.....	4.08
29	Diseases of the heart and valves	10.87	.....	10.87	.98	12.99	.....	12.99	1.56
30	Other diseases of the circulatory system.	.....	.....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	43.48	.....	.....	.71	77.92	.....	.....	1.38
32	Dyspepsia, colic, and constipation	65.22	.....	.....	1.13	64.94	.....	.....	.67
33	Other diseases of the digestive system.	54.35	.....	.....	.68	51.95	.....	12.99	3.44
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	.....	.....	.....	.....	12.99	.....	.....	.28
36	Diseases of the locomotor system (excluding muscular rheumatism).	10.87	.....	.....	.12	.....	.....	.....	.....
37	Diseases of the integumentary system.	54.35	.....	.....	.65	25.97	.....	.....	1.10
38	All other diseases	.....	.....	.....	.....	12.99	.....	.....	.25
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	43.48	.....	.....	.62	77.92	.....	.....	.96
42	Dislocations	.....	.....	.....	.....	12.99	.....	.....	.28
43	Fractures (not gunshot)	.....	.....	.....	.....	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	43.48	.....	.....	1.37	25.97	.....	.....	.64
45	Shot wounds	.....	.....	.....	.....	.....	.....	.....	.....
46	All other injuries	10.87	.....	.....	.03	12.99	.....	.....	.25
	Total for disease	489.13	.....	32.61	22.42	818.18	.....	51 95	38.21
	Total for injuries	97.83	.....	.....	2.02	129.87	.....	.....	2.13
	Total for all causes: Year 1888	586.96	.....	32.61	24.44	948.05	.....	51.95	40.34
	Total for all causes: Year 1887	643.68	.....	34.48	19.37	1,213.33	13.33	.....	31.93
	Total for all causes: Decade	901.06	8.83	12.37	.....	1,467.78	9.02	47.68	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Sheridan (Camp Highwood), Ill.				Chicago, Ill.				In the field, Northern Lakes.				
98.	12.	—.		37.	51.	—.		5.	35.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
20.41			.81									2
10.20			.08	54.05			.59					3
												4
71.43			.39									5
												6
												7
51.02			2.01									8
30.61			1.25									9
10.20			.86									10
												11
10.20			.25									12
20.41			.11									13
				27.03			1.62					14
112.24		10.20	4.41	81.08			3.10					15
30.61			.64									16
												17
												18
												19
												20
30.61			3.79									21
												22
10.20			.11									23
71.43			.64	81.08			.44					24
												25
				27.03		27.03	2.44					26
												27
												28
												29
												30
												31
71.43			.33									32
20.41			.86	27.03			.44					33
												34
												35
												36
81.63			1.03									37
10.20			1.14	27.03								38
												39
												40
173.47			5.02									41
												42
												43
20.41			.22									44
												45
10.20			.14									46
663.27		10.20	18.74	324.32		27.03	8.64					
204.08			5.38									
867.35		10.20	24.12	324.32		27.03	8.64					
833.33			17.81	235.29			9.08	428.57			8.61	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Central Timbered Plains and Hills.			
	Mean strength, respectively, for years 1888, 1887, and decade.	1,443. 1,309. 1,043.			
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.69			.38
2	Other specific contagious and infectious diseases, including erysipelas.	96.33	.69		4.30
3	Malarial fevers and resulting conditions	315.32	.69	2.77	9.44
4	Typho-malarial fever	1.39			.06
5	Diarrhœa, including cholera morbus	142.76		.69	2.60
6	Dysentery	9.01			.21
7	Other miasmatic diseases				
8	Gonorrhœa and results	94.25		.69	5.20
9	Syphilis and results	45.05		5.54	3.56
10	Other venereal diseases	73.46			5.08
11	Vaccina	136.52			7.52
12	Other enthetic diseases	1.39			.04
13	Alcoholism	21.48			.27
14	Other dietic diseases				
15	Rheumatism (including muscular)	83.85		3.47	4.80
16	Other constitutional diseases	8.32		1.39	.69
17	Developmental diseases				
18	Parasitic diseases	16.63			.48
19	Headache and neuralgia	47.12			.66
20	Other diseases of the nervous system	12.47		3.47	.61
21	Diseases of the eye	25.64		.69	1.14
22	Diseases of the ear	15.94		.69	.63
23	Catarrhs and common colds	5.54			.05
24	Bronchitis	110.88		1.39	2.22
25	Pneumonia	38.12	11.78	2.77	3.65
26	Pulmonary phthisis	2.08		3.47	.27
27	Pleuritis	6.24			.16
28	Other diseases of the respiratory system	2.08			.21
29	Diseases of the heart and valves	2.77		1.39	.30
30	Other diseases of the circulatory system	.69		.69	.05
31	Tonsillitis	83.85			1.84
32	Dyspepsia, colic, and constipation	30.49			.43
33	Other diseases of the digestive system	85.24	.69	.69	1.98
34	Diseases of the kidneys	3.47			.31
35	Other diseases of the genito-urinary system (non-venereal).	22.18		.69	.87
36	Diseases of the locomotor system (excluding muscular rheumatism).	9.01		1.39	.80
37	Diseases of the integumentary system	108.11		.69	3.01
38	All other diseases	31.88			1.12
39	Heat-stroke	2.77			.05
40	Frost-bite and general freezing	6.24			.10
41	Contusions and sprains	123.35		1.39	4.22
42	Dislocations	4.16			.27
43	Fractures (not gunshot)	5.54		1.39	.93
44	Incised, lacerated, contused, and punctured wounds.	28.41			1.12
45	Shot wounds	2.77			.64
46	All other injuries	32.57	2.77	1.39	1.39
	Total for disease	1,690.23	13.86	32.57	64.96
	Total for injuries	205.82	2.77	4.16	8.74
	Total for all causes (Year 1888)	1,896.05	16.63	36.73	73.69
	Total for all causes (Year 1887)	1,944.23	17.57	29.03	79.07
	Total for all causes (Decade)	2,290.56	14.37	46.29	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Columbus Barracks, Ohio.				Newport Barracks, Ky.				
489. 399. 344.				43. 40. 55.				
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
								1
186.09			6.61					2
284.25			6.73	23.26			.38	3
								4
81.80			.97	116.28			1.46	5
8.18			.28					6
								7
188.14			9.54					8
44.99		14.31	3.31					9
132.92			8.96	46.51			3.81	10
198.36			11.77					11
								12
24.54			.22					13
								14
69.53			5.30	69.77		23.26	4.64	15
12.27		2.04	.28					16
								17
42.94			1.27					18
22.49			.30	23.26			.89	19
18.40			.97	23.26			.06	20
30.67			.78					21
28.63			.97					22
10.22			.08					23
40.90			.69	23.26			1.08	24
22.49	4.09		1.94					25
6.13		4.09	.78					26
18.40			.46					27
								28
								29
		2.04	.06					30
124.74			3.56					31
32.72			.38	69.77			.44	32
186.09		2.04	4.33	46.51			1.27	33
8.18			.22					34
24.54		2.04	1.21	23.26			.70	35
6.13			.12	23.26			1.40	36
57.26			1.54					37
18.40			1.95	69.77			.38	38
								39
								40
106.34			2.99					41
								42
4.09			.94	23.26			1.08	43
16.36			.52					44
								45
18.40	2.04	2.04	1.84		23.26			46
1,930.47	4.09	26.58	75.59	558.14		23.26	16.52	
145.19	2.04	2.04	6.29	23.26	23.26		1.08	
2,075.66	6.13	28.63	81.87	581.40	23.26	23.26	17.60	
1,942.36	5.01	40.10	74.51	800.00		25.00	24.31	
2,364.11	8.13	34.55		866.43	9.03	9.03		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Indianapolis Arsenal, Ind.			
	Mean strength, respectively, for the years 1888, 1887, and decade.	27.	27.	23.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever				
2	Other specific contagious and infectious diseases, including erysipelas.				
3	Malarial fevers and resulting conditions	333.33			4.45
4	Typho-malarial fever				
5	Diarrhœa, including cholera morbus	296.30			3.74
6	Dysentery	37.04			.20
7	Other miasmatic diseases				
8	Gonorrhœa and results				
9	Syphilis and results				
10	Other venereal diseases				
11	Vaccina				
12	Other enthetic diseases				
13	Alcoholism				
14	Other dietic diseases				
15	Rheumatism (including muscular)	111.11			10.73
16	Other constitutional diseases				
17	Developmental diseases				
18	Parasitic diseases				
19	Headache and neuralgia	259.26			2.63
20	Other diseases of the nervous system				
21	Diseases of the eye	37.04			.30
22	Diseases of the ear				
23	Catarrhs and common colds				
24	Bronchitis				
25	Pneumonia				
26	Pulmonary phthisis				
27	Pleuritis				
28	Other diseases of the respiratory system	37.04			.40
29	Diseases of the heart and valves	74.07			.71
30	Other diseases of the circulatory system				
31	Tonsillitis	296.30			2.83
32	Dyspepsia, colic, and constipation	37.04			.10
33	Other diseases of the digestive system	74.07			.91
34	Diseases of the kidneys				
35	Other diseases of the genito-urinary system (non-venereal).	37.04			.30
36	Diseases of the locomotor system (excluding muscular rheumatism).	37.04			7.69
37	Diseases of the integumentary system	37.04			1.01
38	All other diseases	629.63			10.32
39	Heat-stroke	37.04			1.52
40	Frost-bite and general freezing				
41	Contusions and sprains	74.07			4.76
42	Dislocations				
43	Fractures (not gunshot)				
44	Incised, lacerated, contused, and punctured wounds.				
45	Shot wounds				
46	All other injuries	74.07			.61
	Total for disease	2,333.33			46.35
	Total for injuries	185.19			6.88
	Total for all causes—Year 1888	2,518.52			53.23
	Total for all causes—Year 1887	2,037.04		37.04	55.41
	Total for all causes—Decade	2,530.04	8.69	26.09	

herein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Jefferson Barracks, Mo.				Little Rock Barracks, Ark.				Mount Vernon Barracks, Ala.				
701.	669.	454.		107.	104.	91.		76.	70.	53.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
1.43	.....	.....	.78	.....	.....	.....	.....	.....	.....	.....	.....	1
67.05	1.43	.....	4.21	9.35	.....	.....	.18	.....	.....	.....	.....	2
349.50	1.43	4.28	12.23	514.02	.....	9.35	14.63	78.95	.....	.....	.72	3
.....	.....	.....	.....	18.69	.....	.....	.84	.....	.....	.....	.....	4
186.88	.....	1.43	4.12	74.77	.....	.....	.46	184.21	.....	.....	2.30	5
1.43	.....	.....	.02	37.38	.....	.....	.46	39.47	.....	.....	1.33	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
58.49	.....	1.43	3.82	28.04	.....	.....	1.51	.....	.....	.....	.....	8
37.09	....	.....	3.87	149.53	.....	9.35	6.69	13.16	.....	.....	1.19	9
55.63	.....	.....	3.97	.....	.....	.....	.....	.....	.....	.....	.....	10
142.65	.....	.....	7.27	.....	.....	.....	.....	.....	.....	.....	.....	11
2.85	.....	.....	.09	.....	.....	.....	.....	.....	.....	.....	.....	12
.....	.....	.....	.....	74.77	.....	.....	.51	144.74	.....	.....	2.88	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
98.43	.....	5.71	5.11	46.73	.....	.....	1.30	92.11	.....	.....	1.76	15
4.28	.....	1.43	.57	9.35	.....	.....	1.61	26.32	.....	.....	3.70	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
2.85	.....	.....	.06	.....	.....	.....	.....	13.16	.....	.....	.32	18
62.77	.....	.....	.85	.....	.....	.....	.....	65.79	.....	.....	1.37	19
8.56	.....	4.28	.44	9.35	.....	9.35	.49	13.16	.....	13.16	.58	20
27.10	.....	.....	1.23	18.69	.....	9.35	3.68	.....	.....	.....	.....	21
12.84	.....	1.43	.62	.....	.....	.....	.....	.....	.....	.....	.....	22
2.85	.....	.....	.04	.....	.....	.....	.....	13.16	.....	.....	.14	23
188.30	.....	2.85	3.87	37.38	.....	.....	.59	39.47	.....	.....	.61	24
59.91	21.40	5.71	6.03	.....	.....	.....	.....	26.32	.....	.....	1.22	25
.....	.....	4.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
2.85	....	.....	.42	.....	.....	.....	.....	.....	.....	.....	.....	28
1.43	.....	1.43	.42	.....	.....	.....	.....	13.16	.....	13.16	1.65	29
1.43	.....	.....	.07	.....	.....	.....	.....	.....	.....	.....	.....	30
69.90	.....	.....	1.10	18.69	.....	.....	.31	13.16	.....	.....	.50	31
24.25	.....	.....	.43	46.73	.....	.....	.97	26.32	.....	.....	.18	32
22.82	1.43	.....	.56	18.69	.....	.....	1.71	131.58	.....	.....	1.22	33
1.43	.....	.....	.48	.....	.....	.....	.....	.....	.....	.....	.....	34
22.82	.....	.....	.81	18.69	.....	.....	.54	.....	.....	.....	.....	35
8.56	.....	2.85	1.12	9.35	.....	.....	.05	13.16	.....	.....	.43	36
146.93	.....	1.43	4.56	65.42	.....	.....	1.10	223.68	.....	.....	3.27	37
17.12	.....	.....	.42	46.73	.....	.....	.69	.....	.....	.....	.....	38
2.85	.....	.....	.04	.....	.....	.....	.....	13.16	.....	.....	.14	39
12.84	.....	.....	.20	.....	.....	.....	.03	.....	.....	.....	.....	40
161.20	.....	2.85	6.21	65.42	.....	.....	1.02	52.63	.....	.....	.58	41
8.56	.....	.....	.55	.....	.....	.....	.....	.....	.....	.....	.....	42
4.28	.....	1.43	.57	9.35	.....	9.35	3.52	13.16	.....	.....	.86	43
29.96	.....	.....	1.17	65.42	.....	.....	2.99	65.79	.....	.....	2.95	44
1.43	.....	.....	.08	9.35	.....	.....	2.76	26.32	.....	.....	7.62	45
38.52	1.43	1.43	1.30	65.42	.....	.....	1.46	26.32	13.16	.....	.29	46
1,690.44	25.68	38.52	69.59	1,252.34	.....	37.38	38.30	1,171.05	.....	26.32	25.38	
259.63	1.43	5.71	10.12	214.95	.....	9.35	11.77	197.37	13.16	.....	12.44	
1,950.07	27.10	44.22	79.71	1,467.29	.....	46.73	50.07	1,368.42	13.16	26.32	37.82	
2,133.03	28.40	22.42	96.79	1,740.38	.....	28.85	38.30	1,071.43	28.57	28.57	36.71	
2,639.01	19.59	57.45	.....	1,671.04	19.67	41.53	.....	1,770.24	3.77	41.43	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Gulf Const.				Fort Barrancas, Fla.			
	Mean strength, respectively, for years 1888, 1887, and decade.	278. 300. 537.				55. 81. 71.			
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								
2	Other specific contagious and infectious diseases, including erysipelas.	14.39	3.60		.42				
3	Malarial fevers and resulting conditions.	1,086.33	3.60		15.82	145.45			5.32
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus.	79.14			1.17	18.18			.30
6	Dysentery	7.19			.08	18.18			.05
7	Other miasmatic diseases								
8	Gonorrhœa and results	39.57			1.92				
9	Syphilis and results	53.96		25.18	8.15				
10	Other venereal diseases	50.36			3.00	18.18			5.86
11	Vaccina								
12	Other enthetic diseases	3.60			.03				
13	Alcoholism	68.35			.68	36.36			.35
14	Other dietic diseases								
15	Rheumatism (including muscular)	93.53		10.79	4.91	18.18			.20
16	Other constitutional diseases	3.60			.24	18.18			1.19
17	Developmental diseases			3.60					
18	Parasitic diseases								
19	Headache and neuralgia	32.37			.34	72.73			.75
20	Other diseases of the nervous system.	7.19			.03	18.18			.10
21	Diseases of the eye	17.99			.74				
22	Diseases of the ear	3.60			.10	18.18			.50
23	Catarrhs and common colds	17.99			.12	36.36			.10
24	Bronchitis	32.37			.49	72.73			1.14
25	Pneumonia								
26	Pulmonary phthisis	21.58		17.99	2.49	54.55		54.55	5.27
27	Pleuritis	3.60			.14				
28	Other diseases of the respiratory system.								
29	Diseases of the heart and valves		3.60		.29		18.18		1.44
30	Other diseases of the circulatory system.								
31	Tonsillitis	35.97			.45	36.36			.30
32	Dyspepsia, colic, and constipation.	86.33			.79	127.27			.84
33	Other diseases of the digestive system.	43.17			.88	72.73			1.29
34	Diseases of the kidneys	3.60			.48				
35	Other diseases of the genito-urinary system (non-venereal).	32.37		3.60	1.80	54.55			2.53
36	Diseases of the locomotor system (excluding muscular rheumatism).	10.79			.73				
37	Diseases of the integumentary system.	183.45			4.98	54.55			1.24
38	All other diseases	14.39			1.24	18.18			.50
39	Heat-stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	266.19			5.54	127.27			2.88
42	Dislocations	3.60			.12				
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds.	53.96			1.00	36.36			.35
45	Shot wounds	7.19		3.60	.18	18.18			.70
46	All other injuries	68.35	7.19		2.49	18.18	36.36		.79
	Total for disease	2,046.76	10.79	61.15	52.49	909.09	18.18	54.55	29.26
	Total for injuries	399.28	7.19	3.60	9.33	200.00	36.36		4.72
	Total for all causes (Year 1888.)	2,446.04	17.99	64.75	61.82	1,109.09	54.55	54.55	33.98
	Total for all causes (Year 1887.)	1,216.67	6.67	63.33	49.50	1,037.04		37.04	34.06
	Total for all causes (Decade ...)	2,177.81	15.45	53.25		2,001.41	9.86	23.94	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Jackson Barracks, La.				New Orleans, La.				Fort Brown, Tex.				In the field, Gulf Coast.				
67.	78	88.		4.	8.	9.		144.	132.	264.		8.	1.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
14.93	.....	.....	.16	.....	.....	.....	.....	20.83	6.94	.....	.74	.....	.....	.....	.....	2
119.40	14.93	.....	3.87	.....	.....	.....	.....	1,986.11	.....	.....	26.72	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
59.70	.....	.....	1.14	.....	.....	.....	.....	104.17	.....	.....	1.29	250.00	.....	.....	5.81	5
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.13	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
29.85	.....	.....	1.10	.....	.....	.....	.....	62.50	.....	.....	3.19	.....	.....	.....	.....	8
44.78	.....	.....	3.22	.....	.....	.....	.....	83.33	.....	48.61	14.23	.....	.....	.....	.....	9
14.93	.....	.....	.37	.....	.....	.....	.....	76.39	.....	.....	3.19	125.00	.....	.....	3.42	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.06	.....	.....	.....	.....	12
74.63	.....	.....	1.26	.....	.....	.....	.....	83.33	.....	.....	.59	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
74.63	.....	.....	.73	.....	.....	.....	.....	138.89	.....	20.83	9.07	.....	.....	.....	.....	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
14.93	.....	.....	.12	.....	.....	.....	.....	27.78	.....	.....	.32	.....	.....	.....	.....	19
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.02	.....	.....	.....	.....	20
.....	.....	.....	.....	.....	.....	.....	.....	34.72	.....	.....	1.42	.....	.....	.....	.....	21
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
44.78	.....	.....	.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
.....	.....	.....	.....	.....	.....	.....	.....	34.72	.....	.....	.51	.....	.....	.....	.....	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
14.93	.....	.....	.20	.....	.....	.....	.....	13.89	.....	13.89	2.69	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.27	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
14.93	.....	.....	.08	.....	.....	.....	.....	48.61	.....	.....	.72	.....	.....	.....	.....	31
119.40	.....	.....	1.10	.....	.....	.....	.....	62.50	.....	.....	.68	.....	.....	.....	.....	32
29.85	.....	.....	.33	.....	.....	.....	.....	41.67	.....	.....	1.06	.....	.....	.....	.....	33
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.93	.....	.....	.....	.....	34
.....	.....	.....	.....	250.00	.....	.....	17.76	34.72	.....	6.94	2.01	.....	.....	.....	.....	35
29.85	.....	.....	.94	.....	.....	.....	.....	6.94	.....	.....	.97	.....	.....	.....	.....	36
44.78	.....	.....	.41	.....	.....	.....	.....	298.61	.....	.....	8.77	250.00	.....	.....	3.42	37
.....	.....	.....	.....	.....	.....	.....	.....	20.83	.....	.....	2.20	.....	.....	.....	.....	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
104.48	.....	.....	1.51	.....	.....	.....	.....	402.78	.....	.....	8.71	250.00	.....	.....	3.42	41
.....	.....	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.23	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
14.93	.....	.....	.24	.....	.....	.....	.....	83.33	.....	.....	1.69	.....	.....	.....	.....	44
14.93	.....	.....	.16	.....	.....	.....	.....	.....	.....	6.94	.....	.....	.....	.....	.....	45
29.85	.....	.....	.41	.....	.....	.....	.....	104.17	.....	.....	4.08	125.00	.....	.....	4.10	46
746.27	14.93	.....	15.46	250.00	.....	.....	17.76	3,215.28	6.94	97.22	81.78	625.00	.....	.....	12.64	
164.18	.....	.....	2.32	.....	.....	.....	.....	597.22	.....	6.94	14.71	375.00	.....	.....	7.51	
910.45	14.93	.....	17.78	250.00	.....	.....	17.76	3,812.50	6.94	104.17	96.48	1,000.00	.....	.....	20.15	
884.61	12.82	.....	19.07	375.00	.....	.....	55.82	1,583.33	7.58	121.21	76.94	.....	.....	.....	.....	
1,826.92	2.26	59.95	.....	.....	.....	.....	.....	2,364.15	14.02	71.62	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Region of the Prairies.			
	Mean strength, respectively, for years 1888, 1887, and decade.	4,377.	4,045.	4,494.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	2.06	.....	.....	.23
2	Other specific contagious and infectious diseases, including erysipelas.	15.54	.....	.....	.52
3	Malarial fevers and resulting conditions	126.11	.23	.23	2.83
4	Typho-malarial fever	.....	.23	.....	.01
5	Diarrhœa, including cholera morbus	112.86	.23	.....	1.09
6	Dysentery	6.63	.....	.23	.34
7	Other miasmatic diseases	.....	.....	.....	.....
8	Gonorrhœa and results	29.70	.....	.23	1.74
9	Syphilis and results	18.96	.23	2.28	1.84
10	Other venereal diseases	21.02	.....	.46	1.50
11	Vaccina	8.68	.....	.....	.17
12	Other enthetic diseases	3.66	.....	.....	.07
13	Alcoholism	37.47	.23	.....	.36
14	Other dietic diseases	4.57	.....	.....	.18
15	Rheumatism (including muscular)	69.68	.....	1.60	3.71
16	Other constitutional diseases	5.94	.23	1.14	.43
17	Developmental diseases	.46	.....	1.14	.04
18	Parasitic diseases	3.88	.....	.....	.03
19	Headache and neuralgia	49.12	.....	.23	.98
20	Other diseases of the nervous system	10.51	.....	2.28	1.17
21	Diseases of the eye	21.48	.....	.91	1.10
22	Diseases of the ear	8.45	.....	.46	.30
23	Catarrhs and common colds	15.54	.....	.....	.14
24	Bronchitis	71.28	.....	.91	1.77
25	Pneumonia	4.57	.69	.....	.67
26	Pulmonary phthisis	1.83	.23	.91	.78
27	Pleuritis	2.28	.....	.....	.16
28	Other diseases of the respiratory system	8.22	.23	.69	.40
29	Diseases of the heart and valves	3.88	.23	1.83	.40
30	Other diseases of the circulatory system	1.37	.....	.69	.12
31	Tonsillitis	34.96	.....	.....	.63
32	Dyspepsia, colic, and constipation	53.69	.....	.....	.91
33	Other diseases of the digestive system	60.77	.91	1.60	1.49
34	Diseases of the kidneys	1.37	.....	.....	.21
35	Other diseases of the genito-urinary system (non-venereal).	15.99	.....	1.14	1.27
36	Diseases of the locomotor system (excluding muscular rheumatism).	8.22	.....	2.51	.65
37	Diseases of the integumentary system	86.13	.....	.46	2.33
38	All other diseases	43.64	.23	.46	1.16
39	Heat-stroke	4.34	.....	.....	.14
40	Frost-bite and general freezing	8.22	.....	.....	.35
41	Contusions and sprains	131.83	.....	.91	4.03
42	Dislocations	1.83	.....	.23	.30
43	Fractures (not gunshot)	6.17	.....	.69	.94
44	Incised, lacerated, contused, and punctured wounds.	53.00	.46	.....	1.63
45	Shot wounds	6.17	.46	1.83	.98
46	All other injuries	37.70	.46	.69	.97
	Total for disease	970.53	3.88	22.39	31.75
	Total for injuries	249.26	1.37	4.34	9.34
	Total for all causes { Year 1888	1,219.79	5.25	26.73	41.09
	Total for all causes { Year 1887	1,343.63	5.44	25.71	45.19
	Total for all causes { Decade	1,655.33	9.08	34.78	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Northern Group.				Fort Pembina, Dak.				Fort Totten, Dak.				
1,326.	1,349.	1,762.		84.	84.	84.		88.	124.	147.		
Admissions.	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.75	.....	.....	.04	.....	.....	.....	.....	.....	.....	.....	.....	1
6.79	.....	.....	.34	23.81	.....	.....	1.72	11.36	.....	.....	.81	2
33.18	.....	.....	.91	35.71	.....	.....	.62	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
70.89	.....	.....	.53	71.43	.....	.....	.52	11.36	.....	.....	.06	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
22.62	.....	.....	1.06	.....	.....	.....	.....	11.36	.....	.....	.31	8
12.07	.....	.75	1.37	.....	.....	.....	.....	22.73	.....	11.36	2.20	9
10.56	.....	.....	.69	11.90	.....	.....	.68	11.36	.....	.....	1.18	10
12.82	.....	.....	.19	11.90	.....	.....	.46	22.73	.....	.....	.37	11
4.52	.....	.....	.14	.....	.....	.....	.....	.....	.....	.....	.....	12
47.51	.....	.....	.54	23.81	.....	.....	.20	11.36	.....	.....	.06	13
12.82	.....	.....	.59	.....	.....	.....	.....	.....	.....	.....	.....	14
70.89	.....	3.02	4.05	59.52	.....	.....	3.45	68.18	.....	.....	4.04	15
9.05	.....	.75	.52	11.90	.....	.....	.29	.....	.....	.....	.....	16
.....	.....	2.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
1.51	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	18
47.51	.....	.75	1.05	71.43	.....	.....	.94	45.45	.....	.....	4.22	19
15.84	.....	3.77	1.09	.....	.....	.....	.....	.....	.....	.....	.....	20
16.59	.....	2.26	.64	107.14	.....	11.90	2.08	22.73	.....	.....	.19	21
13.57	.....	.75	.35	.....	.....	.....	.....	11.36	.....	.....	.12	22
16.59	.....	.....	.11	71.43	.....	.....	.33	.....	.....	.....	.....	23
91.25	.....	1.51	2.28	11.90	.....	.....	.13	56.82	.....	.....	.93	24
6.79	.75	.....	1.07	.....	.....	.....	.....	.....	.....	.....	.....	25
.....	.....	.....	.31	.....	.....	.....	.....	.....	.....	.....	.....	26
1.51	.....	.....	.09	.....	.....	.....	.....	11.36	.....	.....	.96	27
2.26	.....	.....	.08	.....	.....	.....	.....	11.36	.....	.....	.34	28
4.52	.....	1.51	.52	.....	.....	.....	.....	.....	.....	.....	.....	29
2.26	.....	1.51	.34	23.81	.....	11.90	2.99	.....	.....	.....	.....	30
56.56	.....	.....	.94	11.90	.....	.....	.26	11.36	.....	.....	.09	31
71.64	.....	.....	.63	71.43	.....	.....	.46	68.18	.....	.....	.31	32
50.53	.75	.....	1.67	59.52	.....	.....	.52	56.82	.....	.....	7.05	33
1.51	.....	.....	.44	.....	.....	.....	.....	.....	.....	.....	.....	34
13.57	.....	1.51	.97	.....	.....	.....	.....	11.36	.....	11.36	.25	35
8.30	.....	3.02	.87	11.90	.....	.....	1.98	.....	.....	.....	.....	36
80.69	.....	.75	2.52	83.33	.....	.....	1.53	68.18	.....	.....	8.17	37
27.90	.75	.75	.95	11.90	.....	.....	.10	34.09	.....	11.36	1.71	38
6.03	.....	.....	.16	.....	.....	.....	.....	.....	.....	.....	.....	39
15.84	.....	.....	.80	23.81	.....	.....	.68	.....	.....	.....	.....	40
144.04	.....	.....	3.47	83.33	.....	.....	.81	102.27	.....	.....	1.46	41
.75	.....	.....	.03	.....	.....	.....	.....	.....	.....	.....	.....	42
.75	.....	.....	.13	.....	.....	.....	.....	11.36	.....	.....	1.06	43
64.10	.....	.....	2.15	71.43	.....	.....	2.05	45.45	.....	.....	.53	44
8.30	.....	2.26	1.36	11.90	.....	.....	.36	11.36	.....	.....	1.30	45
27.15	.....	.....	.59	.....	.....	.....	.....	11.36	.....	.....	.78	46
845.40	2.26	24.89	27.88	785.71	.....	23.81	19.26	579.55	.....	34.09	33.38	
266.97	.....	2.26	8.69	190.48	.....	.....	3.90	181.82	.....	.....	5.12	
1,112.37	2.26	27.15	36.57	976.19	.....	23.81	23.16	761.36	.....	34.09	38.50	
1,124.54	4.45	21.50	38.32	1,988.10	.....	47.62	49.55	911.29	8.06	40.32	21.48	
1,475.29	6.01	35.46	.....	1,197.85	9.53	25.03	.....	1,389.95	2.04	26.49	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Sisseton, Dak.				Fort Buford, Dak.			
	Mean strength, respectively, for years 1888, 1887, and decade.	66.	98.	81.		309.	278.	234.	
	Causes of admision to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								
2	Other specific contagious and infectious diseases, including erysipelas.	15.15			.87				
3	Malarial fevers and resulting conditions.					42.07			1.15
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus.	30.30			.29	61.49			.55
6	Dysentery								
7	Other miasmatic diseases								
8	Gonorrhœa and results	30.30			.99	29.13			1.17
9	Syphilis and results					12.94			.89
10	Other venereal diseases					9.71			.51
11	Vaccina	60.61			1.37				
12	Other enthetic diseases					9.71			.13
13	Alcoholism					51.78			.78
14	Other dietic diseases					51.78			2.49
15	Rheumatism (including muscular)	121.21			2.65	100.32		3.24	3.84
16	Other constitutional diseases	30.30			1.45	16.18			.77
17	Developmental diseases							3.24	
18	Parasitic diseases								
19	Headache and neuralgia	15.15			.04	48.54		3.24	1.88
20	Other diseases of the nervous system.	15.15		15.15	.25	16.18			.65
21	Diseases of the eye					3.24		3.24	.06
22	Diseases of the ear					6.47			.23
23	Catarrhs and common colds	30.30			.25	6.47			.02
24	Bronchitis	30.30			.33	71.20			2.10
25	Pneumonia					12.94			2.98
26	Pulmonary phthisis								
27	Pleuritis					3.24			.10
28	Other diseases of the respiratory system.					3.24			.18
29	Diseases of the heart and valves	45.45			3.73	9.71		6.47	1.42
30	Other diseases of the circulatory system.								
31	Tonsillitis					74.43			1.49
32	Dyspepsia, colic, and constipation	45.45			.37	77.67			.85
33	Other diseases of the digestive system.	136.36			1.24	55.02			1.94
34	Diseases of the kidneys					3.24			1.87
35	Other diseases of the genito-urinary system (non-venereal).	15.15			.62	6.47		3.24	1.35
36	Diseases of the locomotor system (excluding muscular rheumatism).					22.65		6.47	1.51
37	Diseases of the integumentary system.	15.15			.58	97.09			2.18
38	All other diseases					6.47			.05
39	Heat stroke	15.15			.08				
40	Frost-bite and general freezing	30.30			4.43	9.71			.16
41	Contusions and sprains	90.91			1.66	171.52			4.84
42	Dislocations								
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds.	15.15			.17	87.38			3.82
45	Shot wounds			15.15	2.90	3.24			.10
46	All other injuries	15.15			.12	25.89			.44
	Total for disease	636.36		15.15	15.03	909.39		29.13	33.14
	Total for injuries	166.67		15.15	9.36	297.73			9.36
	Total for all causes (Year 1888)	803.03		30.30	24.38	1,207.12		29.13	42.50
	Total for all causes (Year 1887)	959.18	20.41		32.63	935.25	3.60	25.18	42.18
	Total for all causes (Decade)	1,564.04	4.93	30.79		1,297.09	5.57	22.69	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort A. Lincoln, Dak.				Fort Yates, Dak.				Fort Bennett, Dak.				
112.	113.		257.	266.	269.		269.	48.	46.		103.	
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	7.52	.....	.....	.49	62.50	.....	.....	.97	2
35.71	.....	.....	1.02	75.19	.....	.....	2.28	20.83	.....	.....	.23	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
53.57	.....	.....	.17	56.39	.....	.....	.48	187.50	.....	.....	.80	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	.37	37.59	.....	.....	2.10	.....	.....	.....	.....	8
8.93	.....	.....	.85	18.80	.....	.....	2.41	.....	.....	.....	.....	9
8.93	.....	.....	1.29	15.04	.....	.....	.69	.....	.....	.....	.....	10
.....	.....	.....	.....	22.56	.....	.....	.13	.....	.....	.....	.....	11
.....	.....	.....	.....	7.52	.....	.....	.52	.....	.....	.....	.....	12
187.50	.....	.....	1.56	41.35	.....	.....	.45	.....	.....	.....	.....	13
8.93	.....	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....	14
71.43	.....	.....	4.95	82.71	.....	11.28	7.88	41.67	.....	.....	.34	15
.....	.....	.....	.....	3.76	.....	3.76	1.06	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	3.76	.....	.....	.....	20.83	.....	17
.....	.....	.....	.....	7.52	.....	.....	.06	.....	.....	.....	.....	18
35.71	.....	.....	.12	48.87	.....	.....	.67	62.50	.....	.....	.34	19
26.79	.....	.....	1.20	15.04	.....	.....	.97	.....	.....	.....	.....	20
8.93	.....	.....	.10	15.04	.....	.....	.79	.....	.....	.....	.....	21
.....	.....	.....	.....	3.76	.....	.....	.06	.....	.....	.....	.....	22
.....	.....	.....	.....	18.80	.....	.....	.06	62.50	.....	.....	1.02	23
71.43	.....	.....	.39	176.69	.....	.....	3.52	125.00	.....	20.83	6.72	24
.....	.....	.....	.....	7.52	3.76	.....	.37	.....	.....	.....	.....	25
.....	.....	.....	3.71	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
44.64	.....	.....	.41	63.91	.....	.....	.84	104.17	.....	.....	.85	31
89.29	.....	.....	.51	124.06	.....	.....	1.26	41.67	.....	.....	.23	32
17.86	.....	.....	.17	18.80	.....	.....	.25	83.33	.....	.....	1.59	33
8.93	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	34
26.79	.....	.....	1.24	18.80	.....	.....	1.50	.....	.....	.....	.....	35
8.93	.....	.....	.27	3.76	.....	3.76	.75	.....	.....	.....	.....	36
71.43	.....	.....	1.49	52.63	.....	3.76	2.73	20.83	.....	.....	.68	37
53.57	.....	.....	.78	11.28	.....	.....	.34	41.67	.....	.....	1.88	38
26.79	.....	.....	.24	3.76	.....	.....	.62	20.83	.....	.....	.06	39
26.79	.....	.....	1.20	30.08	.....	.....	1.66	.....	.....	.....	.....	40
160.71	.....	.....	1.90	124.06	.....	.....	3.35	166.67	.....	.....	6.32	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.01	.....	.....	.....	.....	43
142.86	.....	.....	2.39	30.08	.....	.....	.78	20.83	.....	.....	.23	44
17.86	.....	.....	8.51	3.76	.....	3.76	.93	.....	.....	.....	.....	45
17.86	.....	.....	.07	15.04	.....	.....	1.02	20.83	.....	.....	.06	46
839.29	.....	.....	20.69	954.89	3.76	26.32	32.67	854.17	.....	41.67	15.65	
392.86	.....	.....	14.32	206.77	.....	3.76	8.37	229.17	.....	.....	6.66	
1,232.14	.....	.....	35.01	1,161.65	3.76	30.08	41.05	1,083.33	.....	41.67	22.31	
1,008.85	8.85	35.40	33.99	1,133.83	3.72	22.30	37.81	847.83	.....	.....	33.65	
1,890.70	6.61	73.90	.....	1,265.78	7.05	29.32	.....	1,361.78	5.82	14.55	.....	

TABLE XXIII.—*Showing, for each region and each military station*

	Names of region and military stations.	Fort Sully, Dak.				Fort Randall, Dak.			
	Mean strength, respectively, for years 1888, 1887, and decade.	175.	166.	152.		176.	169.	176.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	5.71	.....	.....	.....	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	.....	.....	.....	.28	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	5.71	.....	.....	.16	11.36	.....	.....	.22
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	182.86	.....	.....	1.30	22.73	.....	.....	.26
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	5.71	.....	.....	.14	39.77	.....	.....	1.86
9	Syphilis and results	17.14	.....	.....	2.65	5.68	.....	.....	.81
10	Other venereal diseases	5.71	.....	.....	.14	17.05	.....	.....	1.37
11	Vaccina	22.86	.....	.....	.28	.....	.....	.....	.....
12	Other enthetic diseases	.....	.....	.....	.....	5.68	.....	.....	.03
13	Alcoholism	17.14	.....	.....	.12	51.14	.....	.....	.81
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	28.57	.....	.....	1.05	39.77	.....	.....	2.95
16	Other constitutional diseases	.....	.....	.....	.....	17.05	.....	.....	.26
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	85.71	.....	.....	.61	11.36	.....	.....	.26
20	Other diseases of the nervous system.	34.29	.....	11.43	2.22	11.36	.....	11.36	2.55
21	Diseases of the eye	28.57	.....	.....	1.56	.....	.....	5.68	.82
22	Diseases of the ear	28.57	.....	5.71	.78	51.14	.....	.....	1.30
23	Catarrhs and common colds	17.14	.....	.....	.12	5.68	.....	.....	.05
24	Bronchitis	45.71	.....	5.71	1.01	125.00	.....	.....	4.41
25	Pneumonia	5.71	.....	.....	.50	11.36	.....	.....	1.79
26	Pulmonary phthisis	.....	.....	.....	.....	.....	.....	.....	.....
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.....
28	Other diseases of the respiratory system.	5.71	.....	.....	.09	.....	.....	.....	.....
29	Diseases of the heart and valves	.....	.....	.....	.....	.....	.....	.....	.....
30	Other diseases of the circulatory system.	5.71	.....	5.71	1.16	.....	.....	.....	.....
31	Tonsillitis	28.57	.....	.....	.28	102.27	.....	.....	2.22
32	Dyspepsia, colic, and constipation	40.00	.....	.....	.27	22.73	.....	.....	.19
33	Other diseases of the digestive system.	45.71	5.71	.....	1.64	68.18	.....	.....	2.39
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	11.43	.....	.....	.66	22.73	.....	.....	.90
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	5.71	1.22	5.68	.....	.....	.43
37	Diseases of the integumentary system.	120.00	.....	.....	3.17	96.59	.....	.....	1.63
38	All other diseases	40.00	5.71	.....	.55	68.18	.....	.....	4.01
39	Heat-stroke	.....	.....	.....	.....	11.36	.....	.....	.09
40	Frost-bite and general freezing	11.43	.....	.....	.12	5.68	.....	.....	.34
41	Contusions and sprains	205.71	.....	.....	4.43	119.32	.....	.....	3.48
42	Dislocations	5.71	.....	.....	.23	.....	.....	.....	.....
43	Fracture (not gunshot)	.....	.....	.....	.....	.....	.....	.....	.47
44	Incised, lacerated, contused, and punctured wounds.	45.71	.....	.....	.52	79.55	.....	.....	4.89
45	Shot wounds	17.14	.....	.....	.28	11.36	.....	5.68	1.04
46	All other injuries	34.29	.....	.....	.47	73.86	.....	.....	1.20
	Total for disease	834.29	11.43	34.29	21.95	812.50	.....	17.05	31.51
	Total for injuries	320.00	.....	.....	6.06	301.14	.....	5.68	11.50
	Total for all causes: Year 1888	1,154.29	11.43	34.29	28.01	1,113.64	.....	22.73	43.02
	Total for all causes: Year 1887	1,271.08	.....	6.02	35.43	1,260.36	.....	11.83	50.27
	Total for all causes: Decade	1,394.75	3.28	26.23	.....	1,487.48	6.26	35.27	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

In the field, Northern Group, Prairies.				*Middle Group, Prairies.*				Rock Island Arsenal, Ill.				
2.	2.	—.		2,400.	2,049.	1,988.		57.	58.	59.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	*Admissions.*	*Deaths.*		*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	1.25	.....	.....	.12	.....	.....	.....	.....	1
.....	.....	.....	.....	18.75	.....	.....	.64	17.54	.....	.....	.48	2
.....	.....	.....	.....	182.08	.42	.42	4.01	17.54	.....	.....	.14	3
.....	.....	.....	.....	.....	.42	.....	.01	.....	.....	.....	.....	4
.....	.....	.....	.....	137.92	.42	.....	1.35	140.35	.....	.....	.81	5
.....	.....	.....	.....	7.92	.....	.42	.53	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	.....	28.33	.....	.42	1.76	17.54	.....	.....	.43	8
.....	.....	.....	.....	15.42	.42	2.50	1.66	.....	.....	.....	.....	9
.....	.....	.....	.....	27.92	.....	.83	2.06	17.54	.....	.....	.10	10
.....	.....	.....	.....	8.75	.....	.....	.21	.....	.....	.....	.....	11
.....	.....	.....	.....	2.92	.....	.....	.05	.....	.....	.....	.....	12
.....	.....	.....	.....	30.83	.42	.....	.25	.....	.....	.....	.....	13
.....	.....	.....	.....	1.25	.....	.....	.01	.....	.....	.....	.....	14
.....	.....	.....	.....	74.17	.....	.42	3.50	87.72	.....	.....	.86	15
.....	.....	.....	.....	3.33	.42	1.25	.39	.....	.....	17.54	4.89	16
.....	.....	.....	.....	.42	.....	.42	.05	.....	.....	.....	.....	17
.....	.....	.....	.....	5.83	.....	.....	.05	.....	.....	.....	.....	18
.....	.....	.....	.....	55.42	.....	.....	.84	192.98	.....	.....	1.39	19
.....	.....	.....	.....	5.83	.....	1.25	1.08	17.54	.....	.....	.43	20
.....	.....	.....	.....	24.58	.....	.42	1.44	17.54	.....	.....	.24	21
.....	.....	.....	.....	6.25	.....	.42	.28	.....	.....	.....	.....	22
.....	.....	.....	.....	13.75	.....	.....	.10	87.72	.....	.....	.62	23
.....	.....	.....	.....	73.33	.....	.42	1.75	140.35	.....	.....	1.39	24
.....	.....	.....	.....	3.75	.42	.....	.47	.....	.....	.....	.....	25
.....	.....	.....	.....	2.92	.....	1.67	.79	17.54	.....	17.54	3.16	26
.....	.....	.....	.....	1.67	.....	.....	.16	.....	.....	.....	.....	27
.....	.....	.....	.....	11.67	.42	.42	.62	35.09	17.54	.....	1.92	28
.....	.....	.....	.....	2.08	.42	1.25	.11	.....	.....	.....	.....	29
.....	.....	.....	.....	1.25	.....	.42	.03	17.54	.....	.....	.38	30
.....	.....	.....	.....	32.08	.....	.....	.62	.....	.....	.....	.....	31
.....	.....	.....	.....	52.50	.....	.....	1.23	52.63	.....	.....	.43	32
.....	.....	.....	.....	72.50	.42	2.50	1.39	87.72	.....	.....	.53	33
.....	.....	.....	.....	1.67	.....	.....	.15	.....	.....	.....	.....	34
.....	.....	.....	.....	17.50	.....	.83	1.32	35.09	.....	.....	.29	35
.....	.....	.....	.....	8.33	.....	2.92	.57	.....	.....	.....	.....	36
1,000.00	.....	.....	8.20	89.17	.....	.....	2.12	122.81	.....	.....	2.44	37
500.00	.....	.....	9.56	62.50	.....	.42	1.54	.....	.....	.....	.....	38
.....	.....	.....	.....	4.17	.....	.....	.15	.....	.....	.....	.....	39
.....	.....	.....	.....	6.25	.....	.....	.20	.....	.....	.....	.....	40
.....	.....	.....	.....	128.33	.....	1.67	4.32	52.63	.....	.....	.38	41
.....	.....	.....	.....	2.92	.....	.42	.52	.....	.....	.....	.....	42
.....	.....	.....	.....	7.50	.....	.....	1.26	.....	.....	.....	.....	43
.....	.....	.....	.....	46.25	.83	.....	1.22	35.09	.....	.....	.29	44
.....	.....	.....	.....	5.42	.83	1.25	.87	.....	.....	.....	.....	45
.....	.....	.....	.....	41.67	.83	.83	1.28	52.63	17.54	.....	1.34	46
1,500.00	.....	.....	17.76	1,085.83	4.17	19.58	33.28	1,122.81	17.54	35.09	20.95	
.....	.....	.....		242.50	2.50	4.17	9.53	140.35	17.54	.....	2.01	
1,500.00	.....	.....	17.76	1,328.33	6.67	23.75	43.11	1,263.16	35.09	35.09	22.96	
500.00	.....	.....	6.85	1,419.72	6.83	26.35	48.33	1,655.17	.....	.....	24.33	
.....	.....	.....	.....	1,811.79	9.71	35.87	.....	2,113.74	5.09	15.28	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Omaha, Nebr. (post).				Omaha, Nebr. (headquarters).			
	Mean strength, respectively, for years 1888, 1887, and decade.	350. 411. 254.				32. 31. —.			
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								
2	Other specific contagious and infectious diseases, including erysipelas.	14.29			.71				
3	Malarial fevers and resulting conditions.	34.29			1.40				
4	Typho-malarial fever		2.86		.09				
5	Diarrhœa, including cholera morbus	114.29			.91				
6	Dysentery	2.86			.03				
7	Other miasmatic diseases								
8	Gonorrhœa and results	31.43			3.07				
9	Syphilis and results	14.29	2.86	11.43	2.62				
10	Other venereal diseases	45.71			2.30				
11	Vaccina	28.57			.69				
12	Other enthetic diseases	5.71			.12				
13	Alcoholism	68.57			.54				
14	Other dietic diseases								
15	Rheumatism (including muscular)	120.00		2.86	9.97				
16	Other constitutional diseases	8.57	2.86		.52				
17	Developmental diseases	2.86			.37				
18	Parasitic diseases	2.86			.02				
19	Headache and neuralgia	48.57			.74				
20	Other diseases of the nervous system.	11.43			2.77				
21	Diseases of the eye	42.86			3.21				
22	Diseases of the ear	11.43		2.86	1.16				
23	Catarrhs and common colds	2.86			.02				
24	Bronchitis	165.71			5.76				
25	Pneumonia	2.86	2.86		.51				
26	Pulmonary phthisis	8.57			.53				
27	Pleuritis	2.86			.07				
28	Other diseases of the respiratory system.	28.57			2.31				
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system.								
31	Tonsillitis	54.29			.88				
32	Dyspepsia, colic, and constipation	80.00			4.33	31.25			.34
33	Other diseases of the digestive system.	100.00			2.13				
34	Diseases of the kidneys	5.71			.23				
35	Other diseases of the genito-urinary system (non-venereal).	8.57			1.25	31.25			.51
36	Diseases of the locomotor system (excluding muscular rheumatism).	8.57		5.71	.62				
37	Diseases of the integumentary system.	74.29			2.47				
38	All other diseases	14.29			.62	31.25			.09
39	Heat-stroke								
40	Frost-bite and general freezing	11.43			.50				
41	Contusions and sprains	160.00		5.71	6.10				
42	Dislocations				.27				
43	Fractures (not gunshot)	2.86			1.05				
44	Incised, lacerated, contused, and punctured wounds.	62.86			1.57				
45	Shot wounds	5.71			2.09				
46	All other injuries	57.14	2.86	2.86	1.19				
	Total for disease	1,165.71	11.43	22.86	52.96	93.75			.94
	Total for injuries	300.00	2.86	8.57	12.77				
	Total for all causes (Year 1888)	1,465.71	14.29	31.43	65.73	93.75			.94
	Total for all causes (Year 1887)	1,858.88	4.87	36.50	72.42	225.81			20.24
	Total for all causes (Decade)	1,618.80	8.65	37.37					

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Leavenworth, Kans. (post).				Fort Leavenworth, Kans. (headquarters).				Fort Leavenworth, Kans. (prison guard).				
607.	600.	453.		36.	24.	—.		117.	109.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
49.42			1.15									2
158.15			2.62	27.78			.38	51.28			.42	3
												4
125.21			1.47	27.78			.23	136.75			.75	5
1.65			.02									6
												7
28.01			1.15									8
29.65		3.29	3.02									9
32.95		1.65	1.70					17.09			.35	10
18.12			.41									11
3.29			.04									12
28.01			.22					34.19			.21	13
4.94			.05									14
77.43			3.12	27.78			1.06	25.64			2.62	15
3.29			.10									16
												17
3.29			.06									18
29.65			.54					111.11			.65	19
8.24			1.26									20
28.01			2.33									21
6.59			.13									22
24.71			.17					8.55			.12	23
46.13			.95					111.11			.54	24
9.88			1.21					8.55			.14	25
			.07									26
												27
11.53			.21					8.55			.05	28
3.29		1.65	.03					8.55		8.55	.16	29
1.65		1.65	.07									30
52.72			.78					17.09			.12	31
51.07			1.34	27.78			.46	85.47			.84	32
82.37		3.29	1.15					42.74			1.17	33
3.29			.05									34
19.77		1.65	1.63								.14	35
6.59		1.65	.53									36
126.85			2.82	55.56			1.82	25.64			.49	37
176.28			3.02					8.55			.16	38
3.29			.02					8.55			.21	39
4.94			.07									40
128.50			3.65					34.19			.51	41
1.65			.11									42
8.24			1.17									43
59.31	1.65		1.17									44
1.65		1.65	.18						8.55			45
49.42			1.11					8.55			.23	46
1,252.06		14.83	33.45	166.67			3.95	700.85		8.55	8.92	
257.00	1.65	1.65	7.49					51.28	8.55		.96	
1,509.06	1.65	16.47	40.94	166.67			3.95	752.14	8.55	8.55	9.88	
1,143.33	5.00	21.67	40.25	125.00		41.67	.91	733.94			18.70	
1,497.79	10.82	39.75										

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Riley, Kans.				Fort Reno, Ind. T.			
	Mean strength, respectively, for years 1888, 1887, and decade.	402.	321.	188.		317.	301.	226.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	.....	.....	.....	.....
2	Other specific, contagious, and infectious diseases, including erysipelas.	7.46	.....	.....	.80	6.31	.....	.....	.43
3	Malarial fevers and resulting conditions.	106.97	2.49	.....	3.74	192.43	.....	.....	4.77
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	154.23	.....	.....	1.88	201.89	.....	.....	1.30
6	Dysentery	22.39	.....	.....	1.65	9.46	.....	.....	.54
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	42.29	.....	.....	3.24	47.32	.....	.....	2.72
9	Syphilis and results	19.90	.....	.....	2.58	9.46	.....	.....	.53
10	Other venereal diseases	24.88	.....	.....	3.37	22.08	.....	.....	1.43
11	Vaccina	.....	.....	.....	.....	.....	.....	.....	.....
12	Other enthetic diseases	.....	.....	.....	.....	6.31	.....	.....	.11
13	Alcoholism	47.26	2.49	.....	.47	6.31	.....	.....	.09
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	42.29	.....	.....	1.62	50.47	.....	.....	1.82
16	Other constitutional diseases	2.49	.....	.....	.14	6.31	.....	6.31	1.10
17	Developmental diseases	.....	.....	2.49	.....	.....	.....	.....	.....
18	Parasitic diseases	24.88	.....	.....	.19	.....	.....	.....	.....
19	Headache and neuralgia	47.26	.....	.....	1.39	78.86	.....	.....	1.26
20	Other diseases of the nervous system.	2.49	.....	2.49	.44	6.31	.....	3.15	1.67
21	Diseases of the eye	27.36	.....	.....	.60	22.08	.....	3.15	1.54
22	Diseases of the ear	12.44	.....	.....	.29	.....	.....	.....	.....
23	Catarrhs and common colds	9.95	.....	.....	.10	9.46	.....	.....	.09
24	Bronchitis	4.98	.....	.....	.32	97.79	.....	3.15	2.78
25	Pneumonia	.....	.....	.....	.41	.....	.....	.....	.....
26	Pulmonary phthisis	.....	.....	.....	.....	3.15	.....	3.15	3.77
27	Pleuritis	4.98	.....	.....	.80	3.15	.....	.....	.13
28	Other diseases of the respiratory system.	7.46	.....	.....	.65	3.15	.....	.....	.03
29	Diseases of the heart and valves	.....	.....	2.49	.07	.....	3.15	.....	.....
30	Other diseases of the circulatory system.	.....	.....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	24.88	.....	.....	.26	28.39	.....	.....	1.38
32	Dyspepsia, colic, and constipation	29.85	.....	.....	.39	82.02	.....	.....	.49
33	Other diseases of the digestive system.	39.80	.....	4.98	.82	63.09	.....	3.15	1.51
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.78
35	Other diseases of the genito-urinary system (non-venereal).	32.34	.....	2.49	2.51	12.62	.....	.....	.60
36	Diseases of the locomotor system (excluding muscular rheumatism.)	9.95	.....	2.49	.45	12.62	.....	.....	.94
37	Diseases of the integumentary system.	82.09	.....	.....	2.58	107.26	.....	.....	2.06
38	All other diseases	64.68	.....	.....	2.91	12.62	.....	3.15	.92
39	Heat-stroke	.....	.....	.....	.43	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	3.15	.....	.....	.02
41	Contusions and sprains	141.79	.....	2.49	6.69	151.42	.....	.....	4.14
42	Dislocations	2.49	.....	2.49	1.01	6.31	.....	.....	1.87
43	Fractures (not gunshot)	14.93	.....	.....	1.93	9.46	.....	.....	2.03
44	Incised, lacerated, contused, and punctured wounds.	44.78	.....	.....	1.98	53.63	.....	.....	1.92
45	Shot wounds	12.44	.....	2.49	2.01	6.31	3.15	3.15	.66
46	All other injuries	27.36	.....	2.49	2.62	47.32	.....	.....	1.42
	Total for disease	895.52	4.98	17.41	34.69	1,100.95	3.15	25.24	34.80
	Total for injuries	243.78	.....	9.95	16.67	277.60	3.15	3.15	12.05
	Total for all causes: Year 1888	1,139.30	4.98	27.36	51.36	1,378.55	6.31	28.39	46.85
	Total for all causes: Year 1887	1,367.60	6.23	31.15	44.07	1,607.97		23.26	46.81
	Total for all causes: Decade	1,945.15	14.91	40.47	.....	2,370.96	7.08	44.27	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Gibson, Ind. T.				Fort Sill, Ind. T.				In the field, Middle Group, Prairies.				
89.	87.	67.		277.	282.	265.		116.	119.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
22.47	.....	.....	2.46	3.61	.....	.....	.24	.....	.....	.....	.....	1
33.71	.....	.....	.92	3.61	.....	.....	.08	.....	.....	.....	.....	2
483.15	.....	.....	8.96	588.45	.....	3.61	12.76	94.83	.....	.....	1.08	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
78.65	.....	.....	.58	133.57	3.61	.....	1.89	172.41	.....	.....	1.22	5
11.24	.....	.....	.71	10.83	.....	3.61	1.19	8.62	.....	.....	.12	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
44.94	.....	11.24	2.30	10.83	.....	.....	.21	.....	.....	.....	.....	8
11.24	.....	.....	.09	3.61	.....	.....	.05	8.62	.....	.....	.07	9
56.18	.....	.....	6.39	14.44	.....	3.61	2.36	17.24	.....	.....	.19	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	3.61	.....	.....	.06	.....	.....	.....	.....	12
11.24	.....	.....	.03	14.44	.....	.....	.08	25.86	.....	.....	14	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
78.65	.....	.....	2.55	119.13	.....	.....	3.81	60.34	.....	.....	.94	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
11.24	.....	.....	.03	.....	.....	.....	.....	.....	.....	.....	.....	18
134.83	.....	.....	.74	57.76	.....	.....	.86	17.24	.....	.....	.07	19
.....	.....	.....	.....	3.61	.....	3.61	.45	.....	.....	.....	.....	20
.....	.....	.....	.....	18.05	.....	.....	.50	25.86	.....	.....	.35	21
.....	.....	.....	.....	3.61	.....	.....	.11	8.62	.....	.....	.45	22
11.24	.....	.....	.03	7.22	.....	.....	.02	8.62	.....	.....	.02	23
67.42	.....	.....	.77	90.25	.....	.....	1.18	43.10	.....	.....	.61	24
.....	.....	.....	.....	3.61	.....	.....	.15	.....	.....	.....	.....	25
.....	.....	.....	.....	7.22	.....	7.22	1.05	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	14.44	.....	3.61	.58	.....	.....	.....	.....	28
.....	.....	.....	.....	7.22	.....	.....	.74	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	8.62	.....	.....	.05	30
.....	.....	.....	.....	18.05	.....	.....	.56	.....	.....	.....	.....	31
33.71	.....	.....	.18	28.86	.....	.....	.34	25.86	.....	.....	.40	32
191.01	.....	.....	3.84	72.20	3.61	3.61	1.65	51.72	.....	.....	1.01	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
33.71	.....	.....	1.87	10.83	.....	.....	1.15	8.62	.....	.....	.05	35
11.24	.....	.....	1.75	14.44	.....	10.83	.71	.....	.....	.....	.....	36
101.12	.....	.....	2.46	54.15	.....	.....	1.03	68.97	.....	.....	.52	37
56.18	.....	.....	1.50	3.61	.....	.....	.13	.....	.....	.....	.....	38
.....	.....	.....	.....	10.83	.....	.....	.51	34.48	.....	.....	.19	39
.....	.....	.....	.....	25.27	.....	.....	.94	.....	.....	.....	.....	40
112.36	.....	.....	1.41	148.01	.....	3.61	5.59	94.83	.....	.....	2.19	41
.....	.....	.....	.....	7.22	.....	.....	.34	8.62	.....	.....	.05	42
22.47	.....	.....	1.72	3.61	.....	.....	1.38	.....	.....	.....	.....	43
33.71	11.24	.....	.31	25.27	.....	.....	.55	51.72	.....	.....	.61	44
22.47	.....	.....	1.11	3.61	.....	.....	.47	.....	.....	.....	.....	45
22.47	.....	.....	.12	46.93	.....	.....	1.04	43.10	.....	.....	.57	46
1,483.15	.....	11.24	38.16	1,321.30	7.22	39.71	33.93	655.17	.....	.....	7.30	
213.48	11.24	.....	4.67	270.76	.....	3.61	10.82	232.76	.....	.....	3.60	
1,696.63	11.24	11.24	42.83	1,592.06	7.22	43.32	44.75	887.93	.....	.....	10.91	
1,770.11	22.99	45.98	64.11	1,744.68	14.18	39.01	65.82	1,554.62	8.40	.....	22.31	
2,468.05	14.86	29.72	.....	1,860.12	12.47	35.51	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	*Southern Group, Prairies.*				Fort Concho, Tex.			
	Mean strength, respectively, for years 1888, 1887, and decade.	651.	647.	744.		129.	172.	259.	
	Causes of admission to sick report.	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	7.68	.....	.....	1.01	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	21.51	.....	.....	.47	93.02	.....	.....	1.55
3	Malarial fevers and resulting conditions.	109.06	.....	.....	2.41	54.26	.....	.....	1.63
4	Typho-malarial	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	105.99	.....	.....	1.25	201.55	.....	.....	2.90
6	Dysentery	15.36	.....	.....	.31	69.77	.....	.....	1.52
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	49.16	.....	.....	3.08	31.01	.....	.....	2.12
9	Syphilis and results	46.08	.....	4.61	3.45	31.01	.....	23.26	3.52
10	Other venereal diseases	16.90	.....	.....	1.11	7.75	.....	.....	1.21
11	Vaccina	.....	.....	.....	.....	.....	.....	.....	.....
12	Other enthetic diseases	4.61	.....	.....	.03	7.75	.....	.....	.02
13	Alcoholism	41.47	.....	.....	.37	38.76	.....	.....	.32
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	50.69	.....	3.07	3.79	77.52	.....	7.75	2.39
16	Other constitutional diseases	9.22	.....	1.54	.39	31.01	.....	.....	1.38
17	Developmental diseases	1.54	.....	1.54	.08	.....	.....	.....	.....
18	Parasitic diseases	1.54	.....	.....	.004	7.75	.....	.....	.02
19	Headache and neuralgia	29.19	.....	.....	1.37	31.01	.....	.....	3.20
20	Other diseases of the nervous system.	16.90	.....	3.07	1.66	31.01	.....	15.50	1.19
21	Diseases of the eye	19.97	.....	.....	.76	7.75	.....	.....	.19
22	Diseases of the ear	6.14	.....	.....	.28	.....	.....	.....	.....
23	Catarrhs and common colds	19.97	.....	.....	.36	15.50	.....	.....	.11
24	Bronchitis	23.04	.....	1.54	.81	38.76	.....	.....	.28
25	Pneumonia	3.07	1.54	.....	.58	.....	.....	.....	.....
26	Pulmonary phthisis	1.54	1.54	.....	1.69	.....	.....	.....	.....
27	Pleuritis	6.14	.....	.....	.33	15.50	.....	.....	1.23
28	Other diseases of the respiratory system.	7.68	.....	3.07	.24	15.50	.....	7.75	.51
29	Diseases of the heart and valves	9.22	.....	4.61	1.25	31.01	.....	23.26	4.96
30	Other diseases of the circulatory system.	.....	.....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	1.54	.....	.....	.01	.....	.....	.....	.....
32	Dyspepsia, colic, and constipation.	21.51	.....	.....	.32	54.26	.....	.....	1.33
33	Other diseases of the digestive system.	38.40	3.07	1.54	1.51	124.03	.....	.....	2.01
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	15.36	.....	1.54	1.65	23.26	.....	7.75	.68
36	Diseases of the locomotor system (excluding muscular rheumatism).	7.68	.....	.....	.49	7.75	.....	.....	1.40
37	Diseases of the integumentary system.	86.02	.....	1.54	2.71	108.53	.....	.....	2.71
38	All other diseases	6.14	.....	.....	.18	.....	.....	.....	.19
39	Heat-stroke	1.54	.....	.....	.03	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	119.82	.....	.....	4.14	224.81	.....	.....	6.18
42	Dislocations	.....	.....	.....	.....	.....	.....	.....	.....
43	Fractures (not gunshot)	12.29	.....	4.61	1.40	31.01	.....	23.26	4.55
44	Incised, lacerated, contused, and punctured wounds.	55.30	.....	.....	2.12	124.03	.....	.....	3.92
45	Shot wounds	4.61	.....	3.07	.58	23.26	.....	15.50	2.94
46	All other injuries	44.55	.....	1.54	.58	77.52	.....	.....	1.31
	Total for disease	800.31	6.14	27.65	33.97	1,155.04	.....	85.27	38.55
	Total for injuries	238.10	.....	9.22	8.85	480.62	.....	38.76	18.91
	Total for all causes — Year 1888	1,038.40	6.14	36.87	42.82	1,635.66	.....	124.03	57.46
	Total for all causes — Year 1887	1,559.51	3.09	32.46	49.54	1,906.98	.....	17.44	57.33
	Total for all causes — Decade	1,663.80	14.65	30.23	.....	1,630.79	19.68	38.56	.....

herein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

San Antonio, Tex. (post).				San Antonio, Tex. (headquarters).				In the field, Southern Group, Prairies.				
461.	375.	201.		31.	30.	—.		30.	50.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
10.85	.....	.....	1.42	.....	.....	.....	.....	.....	.....	.....	.....	1
4.34	.....	.....	.23	.....	.....	.....	.....	.....	.....	.....	.....	2
127.98	.....	.....	2.90	.....	.....	.....	.....	166.67	.....	.....	.73	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
93.28	.....	.....	.95	.....	.....	.....	.....	.....	.....	.....	.....	5
.....	.....	.....	.....	.....	.....	.....	.....	33.33	.....	.....	.27	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
60.74	.....	.....	3.75	.....	.....	.....	.....	.....	.....	.....	.....	8
49.89	.....	.....	3.75	.....	.....	.....	.....	100.00	.....	.....	2.00	9
17.35	.....	.....	1.14	.....	.....	.....	.....	66.67	.....	.....	1.46	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	66.67	.....	.....	.55	12
47.72	.....	.....	.44	.....	.....	.....	.....	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
43.38	.....	2.17	4.59	64.52	.....	.....	.97	33.33	.....	.....	.27	15
4.34	.....	2.17	.17	.....	.....	.....	.....	.....	.....	.....	.....	16
2.17	.....	2.17	.11	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
28.20	.....	.....	.97	32.26	.....	.....	.97	33.33	.....	.....	.09	19
13.02	.....	.....	.75	32.26	.....	.....	18.86	.....	.....	.....	.....	20
26.03	.....	.....	1.03	.....	.....	.....	.....	.....	.....	.....	.....	21
6.51	.....	.....	.39	.....	.....	.....	.....	33.33	.....	.....	.09	22
23.86	.....	.....	.47	.....	.....	.....	.....	.....	.....	.....	.....	23
21.69	.....	2.17	1.07	.....	.....	.....	.....	.....	.....	.....	.....	24
4.34	2.17	.....	.82	.....	.....	.....	.....	.....	.....	.....	.....	25
2.17	2.17	.....	1.13	.....	.....	.....	18.68	.....	.....	.....	.....	26
2.17	.....	.....	.04	32.26	.....	.....	1.23	.....	.....	.....	.....	27
4.34	.....	2.17	.14	.....	.....	.....	.....	33.33	.....	.....	.91	28
4.34	.....	.....	.37	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
2.17	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	31
10.85	.....	.....	.05	.....	.....	.....	.....	66.67	.....	.....	.36	32
19.52	4.34	2.17	.88	.....	.....	.....	10.22	.....	.....	.....	.....	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
13.02	.....	.....	.36	32.26	.....	.....	26.53	.....	.....	.....	.....	35
8.68	.....	.....	.30	.....	.....	.....	.....	.....	.....	.....	.....	36
86.77	.....	2.17	2.90	32.26	.....	.....	1.94	33.33	.....	.....	.64	37
8.68	.....	.....	.21	.....	.....	.....	.....	.....	.....	.....	.....	38
2.17	.....	.....	.04	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
101.95	.....	.....	4.01	.....	.....	.....	.....	66.67	.....	.....	1.55	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
6.51	.....	.....	.65	.....	.....	.....	.....	33.33	.....	.....	.91	43
43.38	.....	.....	1.89	.....	.....	.....	.....	.....	.....	.....	.....	44
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
41.21	.....	2.17	.46	.....	.....	.....	.....	.....	.....	.....	.....	46
748.37	8.68	15.18	31.36	225.81	.....	.....	79.41	666.67	.....	.....	7.38	
195.23	.....	2.17	7.05	.....	.....	.....	.....	100.00	.....	.....	2.46	
943.60	8.68	17.35	38.41	225.81	.....	.....	79.41	766.67	.....	.....	9.84	
1,570.67	5.33	48.00	51.59	766.67	.....	.....	65.21	1,080.00	.....	.....	12.49	
1,729.85	16.42	33.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Great Plains Region.				*Great Plains, Northern Group.*			
	Mean strength, respectively, for years 1888, 1887, and decade.	6,352.	6,707.	6,605.		2,222.	2,261.	2,393.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non-effective.*
1	Enteric fever	5.04	.63	.....	.61	3.15	.....	.....	.50
2	Other specific contagious and infectious diseases, including erysipelas.	14.48	.31	.....	.50	11.25	.....	.....	.52
3	Malarial fevers and resulting conditions.	67.07	.....	.....	1.72	57.16	.....	.....	1.36
4	Typho-malarial fever	.31	.....	.....	.01	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	99.18	.16	.31	.87	62.11	.....	.....	.37
6	Dysentery	10.71	.16	.31	.54	.90	.....	.....	.08
7	Other miasmatic diseases	.79	.....	.....	.01	.....	.....	.....	.....
8	Gonorrhœa and results	32.75	.....	.16	1.67	32.40	.....	.45	1.74
9	Syphilis and results	19.52	.....	3.15	1.60	19.35	.....	2.25	1.42
10	Other venereal diseases	23.61	.....	.....	1.32	28.80	.....	.....	1.89
11	Vaccina	8.03	.....	.....	.15	5.85	.....	.....	.12
12	Other enthetic diseases	3.15	.....	.....	.11	3.15	.....	.....	.15
13	Alcoholism	38.41	.31	.....	.35	30.60	.45	.....	.26
14	Other dietic diseases	1.26	.....	.....	.03	.45	.....	.....	.001
15	Rheumatism (including muscular).	82.97	.....	2.68	3.36	84.61	.....	2.70	3.03
16	Other constitutional diseases	4.88	.31	.31	.23	3.15	.....	.....	.07
17	Developmental diseases	.63	.....	1.57	.07	.90	.....	2.25	.12
18	Parasitic diseases	2.05	.....	.....	.02	1.80	.....	.....	.02
19	Headache and neuralgia	52.58	.....	.16	.79	48.60	.....	.....	.92
20	Other diseases of the nervous system.	12.28	.16	1.57	.90	16.65	.45	.90	1.00
21	Diseases of the eye	23.14	.....	1.42	.85	21.60	.....	1.35	1.01
22	Diseases of the ear	7.71	.....	.63	.43	6.30	.....	.90	.52
23	Catarrhs and common colds	15.59	.....	.....	.21	12.60	.....	.....	.30
24	Bronchitis	79.50	.....	.31	1.81	83.71	.....	.45	2.67
25	Pneumonia	7.08	.94	.31	.67	4.50	.90	.45	.50
26	Pulmonary phthisis	3.46	.63	1.89	.44	2.25	.90	1.35	.35
27	Pleuritis	3.46	.....	.16	.13	.90	.....	.....	.03
28	Other diseases of the respiratory system.	4.88	.16	.....	.17	4.95	.45	.....	.11
29	Diseases of the heart and valves	7.71	.79	1.73	.46	9.00	.90	1.35	.61
30	Other diseases of the circulatory system.	2.05	.31	.79	.25	.45	.45	.....	.06
31	Tonsillitis	39.20	.....	.....	.51	42.75	.....	.....	.59
32	Dyspepsia, colic, and constipation.	58.88	.....	.16	.73	54.46	.....	.....	.67
33	Other diseases of the digestive system.	85.80	1.10	1.73	2.15	103.96	.45	.....	2.39
34	Diseases of the kidneys	2.52	.16	.47	.33	.90	.....	.45	.12
35	Other diseases of the genito-urinary system (non-venereal)	14.01	.....	1.26	.82	20.70	.....	1.35	.97
36	Diseases of the locomotor system (excluding muscular rheumatism).	13.85	.....	1.89	1.03	12.15	.....	.45	.91
37	Diseases of the integumentary system.	69.43	.....	.16	1.77	68.86	.....	.....	1.93
38	All other diseases	24.24	.....	.47	.99	29.25	.....	.....	1.22
39	Heat-stroke	5.20	.....	.....	.07	1.80	.....	.....	.02
40	Frost-bite and general freezing	7.40	.16	.47	.43	11.70	.....	1.35	.83
41	Contusions and sprains	136.02	.....	.47	3.37	148.51	.....	.....	3.90
42	Dislocations	3.62	.....	.31	.24	2.25	.....	.45	.28
43	Fractures (not gunshot)	6.93	.....	.63	1.05	7.65	.....	1.35	1.42
44	Incised, lacerated, contused, and punctured wounds.	53.68	.16	.....	1.59	65.71	.45	.....	1.99
45	Shot wounds	4.72	1.57	1.26	.88	4.05	.90	.45	.82
46	All other injuries	45.97	.94	1.42	1.16	35.10	1.80	.90	.69
	Total for disease	942.22	6.14	23.61	28.64	890.19	4.95	16.65	28.54
	Total for injuries	263.54	2.83	4.57	8.78	276.78	3.15	4.50	9.94
	Total for all causes (Year 1888)	1,205.76	8.97	28.18	37.42	1,166.97	8.10	21.15	38.49
	Total for all causes (Year 1887)	1,209.48	7.45	26.39	39.33	1,283.94	4.87	31.40	40.33
	Total for all causes (Decade)	1,571.99	10.29	33.38	.....	1,513.16	9.03	31.30	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Assinniboine, Mont.				Camp Poplar River, Mont.				Fort Shaw, Mont.				
412.	396.	337.		95.	97.	54.		194.	201.	187.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
4.85	.....	.....	.83	.....	.....	.....	.....	5.15	.....	.....	1.52	
19.42	.....	.....	.69	.....	.....	.....	.....	25.77	.....	.....	1.34	1
												2
41.26	.....	.....	.90	.....	.....	.....	.....	15.46	.....	.....	.17	
												3
46.12	.....	.....	.31	200.00	.....	.....	.89	20.62	.....	.....	.20	4
4.85	.....	.....	.45	.....	.....	.....	.....	.....	.....	.....	.....	5
												6
31.55	.....	2.43	2.65	94.74	.....	.....	5.18	15.46	.....	.....	.56	7
19.42	.....	.....	.66	.....	.....	.....	.....	5.15	.....	.....	.20	8
77.67	.....	.....	5.15	.....	.....	.....	.....	5.15	.....	.....	.13	9
7.28	.....	.....	.15	.....	.....	.....	.....	.....	.....	.....	.....	10
2.43	.....	.....	.31	10.53	.....	.....	.20	10.31	.....	.....	.35	11
46.12	.....	.....	.35	10.53	.....	.....	.03	10.31	.....	.....	.13	12
												13
63.11	.....	2.43	1.18	31.58	.....	.....	.14	154.64	.....	.....	5.21	14
4.85	.....	.....	.05	.....	.....	.....	.....	5.15	.....	.....	.10	15
.....	.....	2.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
												17
65.53	.....	.....	1.34	42.11	.....	.....	.26	72.16	.....	.....	.66	18
29.13	.....	.....	.62	10.53	.....	.....	.03	10.31	.....	.....	1.93	19
												20
21.84	.....	2.43	.27	10.53	.....	.....	.06	15.46	.....	.....	.08	
9.71	.....	.....	.17	.....	.....	.....	.....	.....	.....	.....	.....	21
.....	.....	.....	.....	42.11	.....	.....	.23	.....	.....	.....	.....	22
29.13	.....	.....	.33	84.21	.....	.....	.60	77.32	.....	.....	5.04	23
2.43	.....	2.43	1.05	.....	.....	.....	.....	5.15	.....	.....	.52	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
												26
9.71	.....	.....	.35	.....	.....	.....	.....	5.15	5.15	.....	.01	27
												28
9.71	2.43	.....	.21	.....	.....	10.53	5.03	.....	.....	.....	.....	
												29
												30
16.99	.....	.....	.27	42.11	.....	.....	.20	46.39	.....	.....	.77	
38.83	.....	.....	.36	31.58	.....	.....	.23	97.94	.....	.....	.80	31
												32
63.11	.....	.....	2.07	168.42	.....	.....	1.93	180.41	5.15	.....	4.23	
												33
								5.15	.....	.....	.23	
29.13	.....	2.43	1.75	31.58	.....	.....	.52	61.86	.....	.....	2.11	34
21.84	.....	2.43	1.83	84.21	.....	.....	5.44	10.31	.....	.....	.82	35
												36
63.11	.....	.....	2.17	115.79	.....	.....	2.93	25.77	.....	.....	.55	
												37
80.10	.....	.....	3.56	63.16	.....	.....	3.36	15.46	.....	.....	.52	
7.28	.....	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....	38
7.28	.....	2.43	.23	10.53	.....	.....	.09	.....	.....	.....	.....	39
135.92	.....	.....	2.82	63.16	.....	.....	.92	92.78	.....	.....	3.10	40
								5.15	.....	.....	.39	41
4.85	.....	.....	.62	.....	.....	.....	1.55	5.15	.....	.....	.45	42
80.10	.....	.....	1.79	136.84	.....	.....	4.77	87.63	.....	.....	4.34	43
												44
4.85	.....	2.43	.82	.....	.....	.....	.....	5.15	.....	.....	2.17	
19.42	.....	.....	.27	94.74	10.53	.....	1.18	25.77	5.15	.....	.20	45
												46
859.22	2.43	16.99	20.00	1,073.68	.....	10.53	27.26	902.06	10.31	.....	28.18	
259.71	.....	4.85	6.59	305.26	10.53	.....	8.51	221.65	5.15	.....	10.65	
1,118.93	2.43	21.84	36.59	1,378.95	10.53	10.53	35.78	1,123.71	15.46	.....	38.83	
1,128.79	2.53	17.68	36.89	1,886.60	.....	30.93	45.81	776.11	9.95	9.95	29.92	
2,034.98	5.34	43.29	.....	1,402.21	5.53	29.52	.....	1,823.72	4.27	55.56	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Maginnis, Mont.				Fort Keogh, Mont.			
	Mean strength, respectively, for years 1888, 1887, and decade.	117.	111.	123.		367.	364.	443.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	2.72	.....	.....	.98
2	Other specific contagious and infectious diseases, including erysipelas.	8.55	.....	.....	.72	10.90	.....	.....	.69
3	Malarial fevers and resulting conditions.	85.47	.....	.....	1.14	19.07	.....	.....	.13
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	170.94	.....	.....	.75	73.57	.....	.....	.34
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	8.55	.....	.....	.58	16.35	.....	.....	.92
9	Syphilis and results	.....	.....	.....	.....	27.25	.....	.....	1.99
10	Other venereal diseases	8.55	.....	.....	1.12	10.90	.....	.....	.63
11	Vaccina	.....	.....	.....	.....	8.17	.....	.....	.11
12	Other enthetic diseases	.....	.....	.....	.....	2.72	.....	.....	.04
13	Alcoholism	34.19	.....	.....	.30	73.57	2.72	.....	.54
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	42.74	.....	.....	1.07	70.84	.....	2.72	1.97
16	Other constitutional diseases	.....	.....	.....	.....	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	2.72	.....	.....	.03
19	Headache and neuralgia	94.02	.....	.....	1.26	68.12	.....	.....	1.09
20	Other diseases of the nervous system.	8.55	.....	.....	.07	19.07	2.72	.....	2.31
21	Diseases of the eye	34.19	.....	.....	1.03	8.17	.....	.....	.98
22	Diseases of the ear	.....	.....	.....	.....	2.72	.....	.....	1.04
23	Catarrhs and common colds	8.55	.....	.....	.02	2.72	.....	.....	1.15
24	Bronchitis	42.74	.....	.....	.56	98.09	.....	2.72	4.98
25	Pneumonia	8.55	8.55	.....	.21	.....	.....	.....	.....
26	Pulmonary phthisis	.....	.....	.....	.....	2.72	.....	2.72	.63
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.....
28	Other diseases of the respiratory system.	8.55	.....	.....	.28	2.72	.....	.....	.03
29	Diseases of the heart and valves	8.55	.....	.....	.05	16.35	.....	.....	.51
30	Other diseases of the circulatory system.	8.55	8.55	.....	1.10	.....	.....	.....	.....
31	Tonsillitis	17.09	.....	.....	.16	19.07	.....	.....	.34
32	Dyspepsia, colic, and constipation	51.28	.....	.....	.47	51.77	.....	.....	1.25
33	Other diseases of the digestive system.	76.92	.....	.....	.44	138.96	.....	.....	1.86
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	42.74	.....	8.55	4.32	8.17	.....	.....	.07
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	2.72	.....	.....	1.11
37	Diseases of the integumentary system.	128.21	.....	.....	2.50	65.40	.....	.....	1.65
38	All other diseases	8.55	.....	.....	.07	13.62	.....	.....	.48
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	42.74	.....	.....	3.71	8.17	.....	2.72	1.57
41	Contusions and sprains	222.22	.....	.....	2.71	171.66	.....	.....	5.37
42	Dislocations	.....	.....	.....	.....	2.72	.....	.....	.12
43	Fractures (not gunshot)	17.09	.....	.....	1.73	.....	.....	2.72	1.10
44	Incised, lacerated, contused, and punctured wounds.	85.47	.....	.....	2.13	81.74	.....	.....	2.93
45	Shot wounds	8.55	8.55	.....	4.69	8.17	2.72	.....	.62
46	All other injuries	51.28	.....	.....	.51	21.80	2.72	.....	.26
	Total for disease	905.98	17.09	8.55	18.24	839.24	5.45	8.17	27.85
	Total for injuries	427.35	8.55	.....	15.48	294.28	5.45	5.45	11.97
	Total for all causes — Year 1888	1,333.33	25.64	8.55	33.72	1,133.51	10.90	13.62	39.82
	Total for all causes — Year 1887	1,009.01	18.02	27.03	30.93	1,184.07	2.75	27.47	29.72
	Total for all causes — Decade	1,893.24	5.70	38.31	.....	1,300.00	12.87	26.64	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Custer, Mont.				Fort Meade, Dak.				Fort McKinney, Wyo.				
375.	363.	335.		419.	462.	351.		191.	171.	222.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
2.67	.....	.....	.08	.....	.....	.....	.....	5.24	.....	.....	.36	1
10.67	.....	.....	.50	.....	.....	.....	.....	15.71	.....	.....	.41	2
106.67	.....	.....	3.95	85.92	.....	.....	1.82	52.36	.....	.....	.87	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
66.67	.....	.....	.52	31.03	.....	.....	.25	52.36	.....	.....	.36	5
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
37.33	.....	.....	2.85	33.41	.....	.....	.91	52.36	.....	.....	1.52	8
37.33	.....	10.67	4.11	9.55	.....	.....	.51	31.41	.....	5.24	1.85	9
40.00	.....	.....	3.14	9.55	.....	.....	.52	36.65	.....	.....	1.59	10
16.00	.....	.....	.39	2.39	.....	.....	.05	.....	.....	.....	.....	11
.....	.....	.....	.....	2.39	.....	.....	.02	5.24	.....	.....	.49	12
16.00	.....	.....	.18	16.71	.....	.....	.21	10.47	.....	.....	.07	13
2.67	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	14
96.00	.....	.....	5.18	59.67	.....	9.55	3.45	178.01	.....	.....	4.63	15
2.67	.....	.....	.05	4.77	.....	.....	.10	5.24	.....	.....	.31	16
2.67	.....	2.67	.36	2.39	.....	4.77	.31	.....	.....	5.24	.....	17
.....	.....	.....	.....	7.16	.....	.....	.07	.....	.....	.....	.....	18
29.33	.....	.....	.89	14.32	.....	.....	.28	52.36	.....	.....	1.83	19
18.67	.....	.....	.90	11.93	.....	2.39	.37	10.47	.....	5.24	1.30	20
18.67	.....	2.67	1.09	21.48	.....	.....	.43	57.59	.....	5.24	5.39	21
8.00	.....	2.67	1.13	4.77	.....	2.39	.55	20.94	.....	.....	.20	22
42.67	.....	.....	.47	9.55	.....	.....	.07	10.47	.....	.....	.07	23
40.00	.....	.....	2.24	181.38	.....	.....	4.50	99.48	.....	.....	.79	24
2.67	.....	.....	.38	14.32	2.39	.....	.97	.....	.....	.....	.....	25
.....	.....	.....	.....	7.16	4.77	2.39	.99	5.24	.....	5.24	.72	26
5.33	.....	.....	.07	.....	.....	.....	.....	.....	.....	.....	.26	27
2.67	.....	.....	.04	4.77	.....	.....	.07	5.24	.....	.....	.07	28
18.67	2.67	5.33	1.36	4.77	.....	.....	.22	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
34.67	.....	.....	.39	105.01	.....	.....	1.48	41.88	.....	.....	.51	31
109.33	.....	.....	1.19	21.48	.....	.....	.27	41.88	.....	.....	.26	32
82.67	.....	.....	3.93	50.12	.....	.....	1.51	204.19	.....	.....	2.79	33
2.67	.....	2.67	.58	.....	.....	.....	.....	.....	.....	.....	.....	34
8.00	.....	.....	.08	14.32	.....	.....	.60	.....	.....	5.24	.84	35
8.00	.....	.....	.23	7.16	.....	.....	.20	5.24	.....	.....	.09	36
61.33	.....	.....	2.94	88.31	.....	.....	1.78	47.12	.....	.....	1.10	37
32.00	.....	.....	1.22	4.77	.....	.....	.37	10.47	.....	.....	.03	38
.....	.....	.....	.....	.....	.....	.....	.....	5.24	.....	.....	.13	39
2.67	.....	2.67	.05	19.09	.....	.....	1.42	26.18	.....	.....	.63	40
154.67	.....	.....	3.83	183.77	.....	.....	6.36	125.65	.....	.....	2.03	41
.....	.....	.....	.....	7.16	.....	2.39	1.21	.....	.....	.....	.....	42
8.00	.....	5.33	1.79	16.71	.....	.....	2.01	10.47	.....	.....	2.80	43
50.67	2.67	.....	1.03	45.35	.....	.....	.82	20.94	.....	.....	1.72	44
5.33	.....	.....	.76	.....	.....	.....	.....	.....	.....	.....	.....	45
61.33	2.67	.....	1.68	19.09	.....	4.77	.88	41.88	.....	.....	.49	46
962.67	2.67	26.67	40.46	830.55	7.16	21.48	22.87	1,057.59	.....	31.41	28.71	
282.67	5.33	8.00	9.12	291.17	.....	7.16	12.70	230.37	.....	.....	7.80	
1,245.33	8.00	34.67	49.58	1,121.72	7.16	28.64	35.56	1,287.96	.....	31.41	36.51	
931.13	2.75	46.83	47.81	1,935.06	2.16	49.78	53.36	1,672.51	11.70	35.09	51.40	
1,510.44	7.46	36.69	.....	1,303.50	8.83	28.50	.....	2,047.68	6.30	31.94	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	In the field, Great Plains, Northern Group.				*Great Plains, Middle Group.*			
	Mean strength, respectively, for years 1888, 1887, and decade.	52.	96.	—.		2,713.	2,707.	2,131.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non-effective.*
1	Enteric fever	19.23	.....	.....	.16	5.16	.74	.....	.56
2	Other specific contagious and infectious diseases, including erysipelas.	.....	.....	.....	.....	14.74	.37	.....	.39
3	Malarial fevers and resulting conditions.	76.92	.....	.....	.63	68.19	.....	.....	1.49
4	Typho-malarial fever	.....	.....	.....	.....	.74	.....	.....	.03
5	Diarrhœa (including cholera morbus)	19.23	.....	.....	.05	133.06	.....	.37	1.15
6	Dysentery	.....	.....	.....	.....	11.43	.37	.37	.49
7	Other miasmatic diseases	.....	.....	.....	.....	.37	.....	.....	.01
8	Gonorrhœa and results	38.46	.....	.....	.74	18.43	.....	.....	.96
9	Syphilis and results	.....	.....	.....	.....	15.11	.....	2.95	1.29
10	Other venereal diseases	.....	.....	.....	.....	9.95	.....	.....	.60
11	Vaccina	.....	.....	.....	.....	11.06	.....	.....	.19
12	Other enthetic diseases	.....	.....	.....	.....	1.84	.....	.....	.06
13	Alcoholism	.....	.....	.....	.....	27.64	.....	.....	.27
14	Other dietic diseases	.....	.....	.....	.....	1.47	.....	.....	.06
15	Rheumatism (including muscular)	57.69	.....	.....	2.05	89.57	.....	2.95	4.20
16	Other constitutional diseases	.....	.....	.....	.....	4.79	.37	.74	.23
18	Developmental diseases	.....	.....	.....	.....	.74	.....	11.06	.07
17	Parasitic diseases	.....	.....	.....	.....	.37	.....	.....	.002
19	Headache and neuralgia	.....	.....	.....	.....	61.19	.....	.37	.84
20	Other diseases of the nervous system	.....	.....	.....	.....	9.95	.....	1.84	.61
21	Diseases of the eye	19.23	.....	.....	.16	21.38	.....	1.47	.84
22	Diseases of the ear	.....	.....	.....	.....	9.58	.....	.74	.45
23	Catarrhs and common colds	.....	.....	.....	.....	16.59	.....	.....	.16
24	Bronchitis	.....	.....	.....	.....	99.52	.....	.37	1.67
25	Pneumonia	.....	.....	.....	.....	11.80	1.47	.37	.95
26	Pulmonary phthisis	.....	.....	.....	.....	5.16	.37	1.84	.52
27	Pleuritis	.....	.....	.....	.....	5.53	.....	.....	.22
28	Other diseases of the respiratory system.	.....	.....	.....	.....	5.90	.....	.....	.25
29	Diseases of the heart and valves	.....	.....	.....	.....	6.63	1.11	1.47	.25
30	Other diseases of the circulatory system.	.....	.....	.....	.....	3.32	.....	1.84	.29
31	Tonsillitis	19.23	.....	.....	.26	45.71	.....	.....	.58
32	Dyspepsia, colic, and constipation	.....	.....	.....	.58	62.29	.....	.37	.81
33	Other diseases of the digestive system.	57.69	.....	.....	1.63	77.41	1.84	2.58	2.06
34	Diseases of the kidneys	.....	.....	.....	.....	2.95	.37	.37	.21
35	Other diseases of the genito-urinary system (non-venereal).	38.46	.....	.....	.21	11.06	.....	.37	.52
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	15.85	.....	2.21	1.13
37	Diseases of the integumentary system.	57.69	.....	.....	1.16	71.51	.....	.37	1.73
38	All other diseases	19.23	.....	.....	.37	16.59	.....	.74	.46
39	Heat-stroke	.....	.....	.....	.....	7.37	.....	.....	.05
40	Frost-bite and general freezing	.....	.....	.....	.....	7.74	.....	.....	.31
41	Contusions and sprains	38.46	.....	.....	1.00	131.59	.....	.74	2.89
42	Dislocations	.....	.....	.....	.....	4.42	.....	.37	.25
43	Fractures (not gunshot)	.....	.....	.....	.....	4.79	.....	.....	.73
44	Incised, lacerated, and punctured wounds.	19.23	.....	.....	.05	43.49	.....	.....	1.25
45	Shot wounds	.....	.....	.....	.....	5.90	1.84	2.21	1.21
46	All other injuries	57.69	.....	.....	.32	59.34	.....	2.21	1.54
	Total for disease	423.08	.....	.....	7.99	974.57	7.00	25.80	26.61
	Total for injuries	115.38	.....	.....	1.37	264.65	1.84	5.53	8.21
	Total for all causes: Year 1888	538.46	.....	.....	9.35	1,239.22	8.85	31.33	34.82
	Total for all causes: Year 1887	583.33	10.42	.....	11.22	1,139.27	7.02	25.49	37.79
	Total for all causes: Decade	.....	.....	.....	.....	1,439.24	8.68	34.82	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Niobrara, Nebr.				Fort Robinson, Nebr.				Fort Laramie, Wyo.				
383.	428.	144.		403.	325.	184.		184.	187.	267.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.62	59.78	10.87	.....	5.29	1
15.67	.....	.....	.19	12.41	.....	.....	.21	10.87	.....	.....	.22	2
26.11	.....	.....	.29	22.33	.....	.....	.46	21.74	.....	.....	1.08	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
190.60	.....	.....	1.23	12.41	.....	.....	.46	70.65	.....	.....	.68	5
7.83	.....	.....	.19	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	5.43	.....	.....	.09	7
5.22	.....	.....	.30	14.89	.....	.....	.64	10.87	.....	.....	.34	8
7.83	.....	.....	.61	22.33	.....	7.44	3.03	5.43	.....	5.43	.36	9
13.05	.....	.....	.65	19.85	.....	.....	1.54	.....	.....	.....	.....	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
2.61	.....	.....	.02	4.96	.....	.....	.07	5.43	.....	.....	.28	12
28.72	.....	.....	.38	14.89	.....	.....	.18	86.96	.....	.....	1.25	13
2.61	.....	.....	.04	.....	.....	.....	.....	.....	.....	.....	.....	14
75.72	.....	2.61	4.32	111.66	.....	2.48	5.86	81.52	.....	10.87	7.60	15
5.22	.....	.....	.04	7.44	.....	.....	.31	5.43	.....	.....	.33	16
.....	.....	.....	.01	.....	.....	.....	.....	.....	.....	5.43	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
20.89	.....	.....	.53	47.15	.....	.....	.52	114.13	.....	5.43	2.17	19
2.61	.....	2.61	.49	19.85	.....	4.96	1.17	5.43	.....	.....	.19	20
31.33	.....	.....	1.26	9.93	.....	2.48	1.06	38.04	.....	5.43	.73	21
2.61	.....	.....	.01	2.48	.....	.....	.09	27.17	.....	.....	1.01	22
78.33	.....	.....	.68	4.96	.....	.....	.08	5.43	.....	.....	.03	23
107.05	.....	2.61	1.26	89.33	.....	.....	3.44	195.65	.....	.....	2.49	24
18.28	2.61	.....	1.28	42.18	4.96	.....	2.48	.....	.....	.....	.40	25
20.89	.....	7.83	2.01	2.48	2.48	.....	.62	.....	.....	.....	.....	26
.....	.....	.....	.....	9.93	.....	.....	.12	.....	.....	.....	.....	27
13.05	.....	.....	.82	4.96	.....	.....	.38	5.43	.....	.....	.06	28
7.83	2.61	2.61	.26	4.96	.....	2.48	.15	5.43	.....	.....	.67	29
2.61	.....	.....	.02	2.48	.....	4.96	.91	10.87	.....	10.87	.86	30
107.05	.....	.....	1.11	22.33	.....	.....	.21	21.74	.....	.....	.31	31
83.55	.....	.....	1.01	22.33	.....	.....	.57	59.78	.....	.....	.79	32
86.16	.....	5.22	1.25	74.44	.....	4.96	3.34	125.00	5.43	10.87	7.35	33
10.44	2.61	2.61	.81	7.44	.....	.....	.12	.....	.....	.....	.....	34
7.83	.....	.....	.11	9.93	.....	.....	1.18	16.30	.....	5.43	1.05	35
36.55	.....	5.22	1.89	17.37	.....	.....	1.23	27.17	.....	10.87	2.17	36
65.27	.....	.....	1.14	32.26	.....	.....	1.44	48.91	.....	.....	1.14	37
.....	.....	.....	.....	24.81	.....	.....	.34	10.87	.....	.....	.18	38
2.61	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	39
13.05	.....	.....	.77	17.37	.....	.....	.58	.....	.....	.....	.....	40
177.55	.....	.....	3.82	138.96	.....	4.96	3.48	152.17	.....	.....	3.04	41
2.61	.....	.....	.31	.....	.....	.....	.....	5.43	.....	.....	.16	42
10.44	.....	.....	1.26	7.44	.....	.....	2.50	.....	.....	.....	.....	43
65.27	.....	.....	2.67	44.67	.....	.....	1.39	54.35	.....	.....	1.81	44
10.44	2.61	5.22	1.37	7.44	.....	2.48	1.90	.....	.....	.....	.....	45
44.39	.....	2.61	1.90	14.89	.....	4.96	.36	70.65	.....	5.43	2.11	46
1,083.55	7.83	31.33	24.20	694.79	7.44	29.77	32.83	1,081.52	16.30	70.65	39.13	
326.37	2.61	7.83	12.11	230.77	.....	12.41	10.20	282.61	.....	5.43	7.13	
1,409.92	10.44	39.16	36.31	925.56	7.44	42.18	43.04	1,364.13	16.30	76.09	46.26	
824.77	.....	49.07	26.50	1,283.08	12.31	43.07	47.07	882.35	10.70	26.74	32.60	
1,348.16	8.34	29.19	.....	1,376.43	14.67	55.40	.....	1,233.44	7.11	37.41	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort D. A. Russell, Wyo.				Fort Sidney, Nebr.			
	Mean strength, respectively, for years 1888, 1887, and decade.	332.	418.	340.		187.	194.	167.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	3.01	.....	.....	.57	.....	.....	.....	.34
2	Other specific contagious and infectious diseases, including erysipelas.	18.07	.....	.....	.78	64.17	.....	.....	1.64
3	Malarial fevers and resulting conditions.	60.24	.....	.....	1.48	69.52	.....	.....	3.43
4	Typho-malarial fever	.....	.....	.....	.....	5.35	.....	.....	.42
5	Diarrhœa, including cholera morbus.	90.36	.....	.....	.81	160.43	.....	.....	1.37
6	Dysentery	3.01	.....	.....	1.24	.....	.....	.....	.26
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	15.06	.....	.....	.36	10.70	.....	.....	1.05
9	Syphilis and results	24.10	.....	3.01	2.58	5.35	.....	5.35	.37
10	Other venereal diseases	12.05	.....	.....	.55	10.70	.....	.....	1.91
11	Vaccina	3.01	.....	.....	.10	21.39	.....	.....	.25
12	Other enthetic diseases	.....	.....	.....	.....	5.35	.....	.....	.34
13	Alcoholism	33.13	.....	.....	.16	74.87	.....	.....	.79
14	Other dietic diseases	3.01	.....	.....	.13	.....	.....	.....	.....
15	Rheumatism (including muscular)	48.19	.....	.....	4.02	128.34	.....	10.70	3.89
16	Other constitutional diseases	3.01	.....	3.01	.35	5.35	.....	.....	.03
17	Developmental diseases	.....	.....	3.01	.....	5.35	.....	5.35	.96
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	90.36	.....	.....	1.29	74.87	.....	.....	1.88
20	Other diseases of the nervous system.	9.04	.....	.....	1.02	26.74	.....	5.35	1.13
21	Diseases of the eye	30.12	.....	3.01	2.40	16.04	.....	.....	.19
22	Diseases of the ear	3.01	.....	.....	.44	42.78	.....	5.35	2.82
23	Catarrhs and common colds	6.02	.....	.....	.03	21.39	.....	.....	.23
24	Bronchitis	105.42	.....	.....	1.54	85.56	.....	.....	.99
25	Pneumonia	12.05	3.01	3.01	2.49	.....	.....	.....	.....
26	Pulmonary phthisis	3.01	.....	.....	.24	10.70	.....	5.35	.88
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.....
28	Other diseases of the respiratory system.	.....	.....	.....	.....	16.04	.....	.....	.53
29	Diseases of the heart and valves	3.01	3.01	.....	.02	.....	.....	.....	.....
30	Other diseases of the circulatory system.	3.01	.....	.....	.16	.....	.....	.....	.....
31	Tonsillitis	39.16	.....	.....	.91	21.39	.....	.....	.16
32	Dyspepsia, colic, and constipation	36.14	.....	.....	.42	112.30	.....	.....	1.01
33	Other diseases of the digestive system.	39.16	3.01	.....	2.83	208.56	.....	.....	2.50
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	9.04	.....	.....	.14	26.74	.....	.....	2.16
36	Diseases of the locomotor system (excluding muscular rheumatism).	3.01	.....	.....	.07	26.74	.....	5 35	2.32
37	Diseases of the integumentary system.	42.17	.....	.....	1.70	85.56	.....	.....	1.34
38	All other diseases	6.02	.....	.....	.48	42.78	.....	10.70	2.78
39	Heat-stroke	.....	.....	.....	.....	10.70	.....	.....	.03
40	Frost-bite and general freezing	6.02	.....	.....	.11	.....	.....	.....	.....
41	Contusions and sprains	81.33	.....	.....	2.17	112.30	.....	.....	3.46
42	Dislocations	.....	.....	.....	.....	.....	.....	.....	.....
43	Fractures (not gunshot)	.....	.....	.....	.....	10.70	.....	.....	1.27
44	Incised, lacerated, contused, and punctured wounds.	33.13	.....	.....	.69	42.78	.....	.....	1.24
45	Shot wounds	3.01	3.01	6.02	4.49	10.70	5.35	.....	1.14
46	All other injuries	24.10	.....	.....	.44	80.21	.....	5.35	2.26
	Total for disease	756.02	9.04	15.06	29.31	1,385.63	.....	53.48	37.97
	Total for injuries	147.59	3.01	6.02	7.89	267.38	5.35	5.35	9.41
	Total for all causes (Year 1888)	903.61	12.05	21.08	37.21	1,652.41	5.35	58.82	47.38
	Total for all causes (Year 1887)	956.94	9.57	19.14	41.21	1,871.13	.....	5.15	44.99
	Total for all causes (Decade)	1,320.20	8.23	27.64	.....	1,925.84	10.76	47.25	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Hays, Kans.				Fort Lyon, Colo.				Fort Supply, Ind. T.				
137.	147.	106.		209.	218.	132.		263.	265.	190.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
							.12					1
14.60			.16				.51	11.41			.12	2
102.19			3.27	33.49			.41	136.88			3.14	3
												4
138.69			1.14	124.40			1.02	178.71		3.80	1.79	5
7.30			.10			4.78	.43	38.02	3.80		1.28	6
												7
72.99			6.02	9.57			.12	34.22			1.72	8
80.29			4.21	4.78		4.78	.30	7.60			.64	9
21.90			.36	9.57			.58				.01	10
51.09			.92	66.99			1.28	7.60			.12	11
												12
				47.85			.33					13
14.60			.80									14
87.59			11.25	119.62			3.36	136.88		3.80	3.60	15
7.30			.18					7.60		3.80	.91	16
												17
												18
43.80			1.02	119.62			.99	91.25			.74	19
7.30			.18	19.14			1.23	3.80		3.80	.32	20
43.80		7.30	1.38	14.35			.22	26.62			.48	21
				14.35			.48	15.21		3.80	.57	22
								3.80			.10	23
248.18			2.93	81.34			.76	98.86			1.34	24
14.60			.80					3.80			.25	25
												26
72.99			3.97									27
				9.57			.16	3.80			.07	28
21.90		14.60	.72	14.35	4.78		.63	3.80			.35	29
				4.78			.22					30
65.69			.74	28.71			.29	76.05			1.01	31
36.50			.32	57.42			.34	76.05		3.80	1.83	32
29.20		7.30	.52	62.20	4.78		1.05	95.06	3.80		1.68	33
							.98					34
21.90			.72	9.57			.09	11.41			.09	35
7.30			.48	4.78			.51	11.41		3.80	2.77	36
51.09			.74	95.69		4.78	1.99	98.86			4.40	37
36.50			.96	23.92			.21	22.81			.32	38
7.30			.06					7.60			.06	39
								19.01			.33	40
36.50			.36	90.91			2.14	209.13			3.88	41
7.30			.14	14.35		4.78	1.18	3.80			.62	42
				4.78			.16					43
14.60			.44	14.35			.25	53.23			1.74	44
7.30			.68					11.41	3.80		.64	45
43.80			.50	43.06			.64	98.86			5.74	46
1,299.27		29.20	43.86	976.08	9.57	14.35	18.59	1,201.52	7.60	26.62	29.69	
116.79			2.17	167.46		4.78	4.37	403.04	3.80		13.02	
1,416.06		29.20	46.03	1,143.54	9.57	19.14	22.96	1,604.56	11.41	26.62	42.71	
829.93	20.41	47.62	43.09	1,431.19	4.59	4.59	33.50	1,049.06	3.77	7.55	36.46	
1,460.74	14.19	29.33		1,584.59	9.82	25.68		1,722.54	4.73	40.46		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Elliott, Tex.				In the field, Middle Group, Great Plains.			
	Mean strength, respectively, for years 1888, 1887, and decade.	179.	191.	155.		436.	33.	—	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever					4.59			.05
2	Other specific contagious and infectious diseases, including erysipelas.	22.35	5.59		.69				
3	Malarial fevers and resulting conditions.	27.93			1.19	153.67			1.92
4	Typho-malarial fever					2.29			.01
5	Diarrhœa, including cholera morbus.	83.80			1.43	236.24			1.62
6	Dysentery	55.87			1.39	13.76			.24
7	Other miasmatic diseases								
8	Gonorrhœa and results	27.93			2.03	16.06			.43
9	Syphilis and results	11.17		5.59	.87	6.88			.22
10	Other venereal diseases	11.17			.17	2.29			.04
11	Vaccina	11.17			.11				
12	Other enthetic diseases								
13	Alcoholism	11.17			.06	11.47			.04
14	Other dietic diseases								
15	Rheumatism (including muscular)	67.04		5.59	2.06	66.51			.81
16	Other constitutional diseases	5.59	5.59		.23	2.29			.01
17	Developmental diseases					2.29			.01
18	Parasitic diseases					2.29			.01
19	Headache and neuralgia	50.28			.44	22.94			.19
20	Other diseases of the nervous system.					6.88			10
21	Diseases of the eye	22.35			.20	4.59			.04
22	Diseases of the ear					6.88			.14
23	Catarrhs and common colds	5.59			.05	9.17			.10
24	Bronchitis	111.73			2.92	20.64			.16
25	Pneumonia					2.29			.01
26	Pulmonary phthisis	5.59		5.59	.73	2.29			.02
27	Pleuritis					2.29			.03
28	Other diseases of the respiratory system.	11.17			.26				
29	Diseases of the heart and valves					9.17			.19
30	Other diseases of the circulatory system.	5.59		5.59	.72	4.59			.06
31	Tonsillitis	100.56			1.36				
32	Dyspepsia, colic, and constipation	111.73			1.72	61.93			.48
33	Other diseases of the digestive system.	100.56	5.59		.96	27.52			.24
34	Diseases of the kidneys					2.29			.03
35	Other diseases of the genito-urinary system (non-venereal).	5.59			.11	6.88			.18
36	Diseases of the locomotor system (excluding muscular rheumatism).					13.76			.22
37	Diseases of the integumentary system.	83.80			1.63	112.39			1.57
38	All other diseases	5.59			.03	13.76			.33
39	Heat-stroke					32.11			.21
40	Frost-bite and general freezing	11.17			.99				
41	Contusions and sprains	195.53			5.86	98.62			1.08
42	Dislocations	5.59			.05	9.17			.23
43	Fractures (not gunshot)	5.59			1.04	4.59			.06
44	Incised, lacerated, contused, and punctured wounds.	55.87			.47	38.99			.80
45	Shot wounds	5.59	5.59	5.59	.02	2.29			.08
46	All other injuries	11.17			.17	135.32		2.29	1.37
	Total for disease	955.31	16.76	22.35	21.35	850.92			9.48
	Total for injuries	290.50	5.59	5.59	8.59	321.10		2.29	3.82
	Total for all causes: Year 1888	1,245.81	22.35	27.93	29.95	1,172.02		2.29	13.30
	Total for all causes: Year 1887	884.82	15.71	10.47	29.73	636.36	30.30	30.30	16.36
	Total for all causes: Decade	1,272.79	6.46	29.74					

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Great Plains, Southern Group.				Fort Stanton, N. Mex.				Fort Bliss, Tex.				
1,417.	1,739.	2,081.		162.	204.	162.		115.	115.	82.		
Admissions.	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
7.76	1.41	.....	.88	.....	.....	.....	.67	.....	.....	.....	.....	1
19.05	.71	.....	.70	12.35	.....	.....	.42	.....	.....	.....	.....	2
80.45	.....	.....	2.71	.....	.....	.....	.....	156.52	.....	.....	3.16	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
92.45	.71	.71	1.14	6.17	.....	.....	.08	295.65	8.70	8.70	4.47	5
24.70	.....	.71	1.37	.....	.....	.....	.....	43.48	.....	.....	1.62	6
2.82	.....	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....	7
60.69	.....	.....	2.92	80.25	.....	.....	4.44	34.78	.....	.....	1.24	8
28.23	.....	4.94	2.49	.....	.....	.....	.....	78.26	.....	.....	2.28	9
41.64	.....	.....	1.80	18.52	.....	.....	1.13	52.17	.....	.....	1.07	10
5.65	.....	.....	.13	6.17	.....	.....	.08	.....	.....	.....	.....	11
5.65	.....	.....	.17	.....	.....	.....	.....	8.70	.....	.....	.02	12
71.28	.71	.....	.64	37.04	6.17	.....	.20	121.74	.....	.....	.83	13
2.12	.....	.....	.03	.....	.....	.....	.....	.....	.....	.....	.....	14
67.75	.....	2.12	2.29	18.52	.....	.....	.73	86.96	.....	8.70	2.40	15
7.76	.71	.....	.48	6.17	.....	.....	1.01	.....	.....	.....	.....	16
.....	.....	1.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
5.65	.....	.....	.07	12.35	.....	.....	.19	8.70	.....	.....	.07	18
42.34	.....	.....	.45	.....	.....	.....	.....	26.09	.....	.....	.12	19
9.88	.....	2.12	1.28	.....	.....	.....	.....	17.39	.....	.....	.19	20
28.93	.....	1.41	.61	6.17	.....	.....	.08	17.39	.....	.....	.12	21
6.35	.....	.....	.25	.....	.....	.....	.....	.....	.....	.....	.....	22
18.35	.....	.....	.17	.....	.....	.....	.....	.....	.....	.....	.....	23
34.58	.....	.....	.74	24.69	.....	.....	.56	60.87	.....	.....	1.21	24
2.12	.....	.....	.41	6.17	.....	.....	.32	.....	.....	.....	.....	25
2.12	.71	2.82	.44	.....	.....	6.17	.40	.....	.....	.....	.....	26
3.53	.....	.71	.12	.....	.....	.....	.....	.....	.....	.....	.....	27
2.82	.....	.....	.10	.....	.....	.....	.....	.....	.....	.....	.....	28
7.76	.....	2.82	.63	.....	.....	.....	.66	.....	.....	.....	.....	29
2.12	.71	.....	.47	.....	.....	.....	.....	17.39	.....	.....	1.62	30
21.17	.....	.....	.28	30.86	.....	.....	.67	43.48	.....	.....	.40	31
59.28	.....	.....	.66	37.04	.....	.....	.89	78.26	.....	.....	.55	32
73.39	.71	2.82	2.45	37.04	6.17	.....	1.92	86.96	.....	.....	1.02	33
4.23	.....	.71	.89	.....	.....	.....	.....	.....	.....	.....	.....	34
9.17	.....	2.82	.63	6.17	.....	.....	.44	.....	.....	.....	.....	35
12.70	.....	3.53	1.01	.....	.....	.....	.....	.....	.....	.....	.....	36
66.34	.....	.....	1.60	49.38	.....	.....	1.30	43.48	.....	.....	.67	37
31.05	.....	.71	1.62	6.17	.....	.....	2.66	17.39	.....	.....	1.26	38
6.35	.....	.....	.18	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.71	.....	.04	.....	.....	.....	.32	.....	.....	.....	.....	40
124.91	.....	.71	3.47	80.25	.....	.....	2.01	95.65	.....	.....	1.54	41
4.23	.....	.....	.14	6.17	.....	.....	.39	.....	.....	.....	.....	42
9.88	.....	.71	1.10	6.17	.....	.....	.46	.....	.....	.....	.....	43
54.34	.....	.....	1.62	67.90	.....	.....	2.58	43.48	.....	.....	3.09	44
3.53	2.12	.71	.33	.....	6.17	6.17	.40	8.70	.....	.....	.05	45
37.40	1.41	.71	1.18	6.17	.....	.....	.03	69.57	.....	8.70	2.42	46
961.89	6.35	30.35	32.67	401.23	12.35	6.17	18.86	1,295.65	8.70	17.39	24.31	
240.65	4.23	2.82	8.05	166.67	6.17	6.17	6.19	217.39	.....	8.70	7.10	
1,202.54	10.59	33.17	40.73	567.90	18.52	12.35	25.05	1,513.04	8.70	26.09	31.41	
1,221.97	11.50	21.28	40.40	553.92	9.80	19.61	39.50	1,443.48	17.39	17.39	46.81	
1,775.57	13.41	34.31	.....	1,799.26	14.16	57.88	.....	2,253.97	20.76	34.19	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Hancock, Tex.				Fort Davis, Tex.			
	Mean strength, respectively, for years 1888, 1887, and decade.	49.	63.	31.		187.	279.	282.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	102.04	20.41	.....	7.08	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	.....	20.41	.....	2.12	16.04	.....	.....	.47
3	Malarial fevers and resulting conditions.	163.27	.....	.....	9.03	32.09	.....	.....	1.90
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	102.04	.....	.....	.50	74.87	.....	.....	.60
6	Dysentery	20.41	.....	.....	.06	5.35	.....	5.35	.34
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	21.39	.....	.....	1.07
9	Syphilis and results	.....	.....	.....	.....	69.52	.....	10.70	6.50
10	Other venereal diseases	.....	.....	.....	.....	16.04	.....	.....	.82
11	Vaccina	.....	.....	.....	.....	.....	.....	.....	.....
12	Other enthetic diseases	20.41	.....	.....	.11	.....	.....	.....	.....
13	Alcoholism	142.86	.....	.....	.95	37.43	.....	.....	.38
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	122.45	.....	.....	1.34	58.82	.....	5.35	3.39
16	Other constitutional diseases	20.41	.....	.....	.95	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	5.35	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	61.22	.....	.....	.56	26.74	.....	.....	.34
20	Other diseases of the nervous system.	.....	.....	.....	.....	10.70	.....	10.70	1.17
21	Diseases of the eye	.....	.....	.....	.....	21.39	.....	10.70	1.37
22	Diseases of the ear	20.41	.....	.....	.28	.....	.....	.....	.....
23	Catarrhs and common colds	20.41	.....	.....	.06	5.35	.....	.....	.06
24	Bronchitis	81.63	.....	.....	1.00	16.04	.....	.....	.09
25	Pneumonia	.....	.....	.....	.....	.....	.....	.....	.....
26	Pulmonary phthisis	.....	.....	.....	.....	5.35	.....	5.35	.69
27	Pleuritis	.....	.....	.....	.....	10.70	.....	5.35	.41
28	Other diseases of the respiratory system.	.....	.....	.....	.....	5.35	.....	.....	.10
29	Diseases of the heart and valves	.....	.....	.....	.....	10.70	.....	10.70	.53
30	Other diseases of the circulatory system.	.....	.....	.....	.....	.....	.....	.....	1.18
31	Tonsillitis	81.63	.....	.....	.78	32.09	.....	.....	.22
32	Dyspepsia, colic, and constipation	61.22	.....	.....	.84	85.56	.....	.....	.51
33	Other diseases of the digestive system.	40.82	.....	.....	.72	64.17	.....	.....	.96
34	Diseases of the kidneys	.....	.....	.....	.....	5.35	.....	.....	.51
35	Other diseases of the genito-urinary system (non-venereal).	20.41	.....	.....	.17	5.35	.....	.....	.01
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	21.39	.....	5.35	3.24
37	Diseases of the integumentary system.	20.41	.....	.....	.50	69.52	.....	.....	.95
38	All other diseases	20.41	.....	20.41	.72	.....	.....	.....	.....
39	Heat-stroke	61.22	.....	.....	3.57	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	306.12	.....	.....	7.47	139.04	.....	.....	4.02
42	Dislocations	.....	.....	.....	.....	.....	.....	.....	.....
43	Fractures (not gunshot)	.....	.....	.....	.....	5.35	.....	.....	1.49
44	Incised, lacerated, contused, and punctured wounds.	61.22	.....	.....	1.62	90.91	.....	.....	1.40
45	Shot wounds	.....	.....	.....	.....	.....	.....	.....	.....
46	All other injuries	40.82	.....	.....	1.62	42.78	5.35	.....	.45
	Total for disease	1,122.45	40.82	20.41	27.77	727.27	.....	74.87	27.80
	Total for injuries	469.39	.....	.....	14.27	278.07	5.35	.....	7.36
	Total for all causes (Year 1888.)	1,591.84	40.82	20.41	42.04	1,005.35	5.35	74.87	35.17
	Total for all causes (Year 1887.)	1,222.22	31.75	15.87	33.01	1,082.44	10.75	14.34	34.30
	Total for all causes (Decade ...)	2,415.03	6.54	26.14	.....	2,125.62	1.49	5.85	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.* —Continued.

Camp Pena Colorado, Tex.				Camp Langtry, Tex.				Camp Del Rio, Tex.				
52.	59.	40.		22.	20.	—.		32.	59.	69.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
57.69	.....	.....	.89	45.45	.....	.....	1.49	218.75	.....	.....	6.23	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
.....	.....	.....	.....	.....	.....	.....	.....	31.25	.....	.....	.26	5
.....	.....	.....	.....	227.27	.....	.....	5.71	31.25	.....	.....	1.28	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.17	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
19.23	.....	.....	.26	.....	.....	.....	.....	.....	.....	.....	.....	12
19.23	.....	.....	.53	.....	.....	.....	.....	218.75	.....	.....	2.31	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
19.23	.....	.....	.11	.....	.....	.....	.....	250.00	.....	.....	2.90	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
19.23	.....	.....	.21	.....	.....	.....	.....	31.25	.....	.....	.09	19
.....	.....	.....	9.93	45.45	.....	.....	.12	.....	.....	.....	.....	20
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
19.23	.....	.....	.37	.....	.....	.....	.....	31.25	.....	.....	.17	23
96.15	.....	.....	1.05	.....	.....	.....	.....	93.75	.....	.....	1.37	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
19.23	.....	.....	.53	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
19.23	.....	.....	1.16	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
19.23	.....	.....	.11	.....	.....	.....	.....	62.50	.....	.....	.51	31
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32
.....	.....	19.23	3.42	.....	.....	.....	.....	.....	.....	.....	.....	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
38.46	.....	.....	1.94	.....	.....	.....	.....	31.25	.....	.....	1.11	35
.....	.....	.....	1.58	.....	.....	.....	.....	.....	.....	.....	.....	36
38.46	.....	.....	1.00	.....	.....	.....	.....	125.00	.....	.....	10.84	37
19.23	.....	.....	.16	.....	.....	.....	.....	31.25	.....	.....	1.20	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
115.38	.....	.....	.74	45.45	.....	.....	1.74	218.75	.....	.....	3.67	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
38.46	.....	.....	1.31	45.45	.....	.....	2.36	31.25	.....	.....	1.54	43
57.69	.....	.....	1.63	45.45	.....	.....	.75	93.75	.....	.....	4.53	44
.....	.....	.....	.....	.....	.....	.....	.....	31.25	.....	.....	4.61	45
38.46	.....	.....	1.00	.....	.....	.....	.....	31.25	.....	.....	.26	46
403.85	.....	19.23	23.22	318.18	.....	.....	7.33	1,156.25	.....	.....	28.43	
250.00	.....	.....	4.68	136.36	.....	.....	4.84	406.25	.....	.....	14.60	
653.85	.....	19.23	27.90	454.55	.....	.....	12.17	1,562.50	.....	.....	43.03	
1,169.49	.....	33.90	49.08	750.00	.....	.....	13.16	1,491.53	16.95	16.95	42.12	
1,357.32	12.41	12.41	.....	.....	.....	.....	.....	1,563.40	4.32	30.26	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Clark, Tex.				Camp at Eagle Pass, Tex.			
	Mean strength, respectively, for years 1888. 1887, and decade.	431.	600.	538.		52.	56.	—.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	11.60	2.32	.....	1.76	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	51.04	.....	.....	1.68	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	34.80	.....	.....	.79	38.46	.....	.....	.68
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	99.77	.....	.....	1.52	19.23	.....	.....	.16
6	Dysentery	48.72	.....	.....	3.44	.....	.....	.....	.....
7	Other miasmatic diseases	9.28	.....	.....	.17	.....	.....	.....	.....
8	Gonorrhœa and results	53.36	.....	.....	2.80	19.23	.....	.....	.63
9	Syphilis and results	25.52	.....	4.64	3.26	.....	.....	.....	.....
10	Other venereal diseases	64.97	.....	.....	1.93	96.15	.....	.....	8.83
11	Vaccina	2.32	.....	.....	.02	19.23	.....	.....	.47
12	Other enthetic diseases	9.28	.....	.....	.37	.....	.....	.....	.....
13	Alcoholism	99.77	.....	.....	1.05	57.69	.....	.....	.32
14	Other dietic diseases	6.96	.....	.....	.10	.....	.....	.....	.....
15	Rheumatism, including muscular	78.89	.....	2.32	2.05	57.69	.....	.....	1.10
16	Other constitutional diseases	20.88	2.32	.....	1.09	.....	.....	.....	.....
17	Developmental diseases	.....	.....	2.32	.....	.....	.....	.....	.....
18	Parasitic diseases	4.64	.....	.....	.03	19.23	.....	.....	.37
19	Headache and neuralgia	53.36	.....	.....	.64	.....	.....	.....	.....
20	Other diseases of the nervous system.	13.92	.....	2.32	2.37	.....	.....	.....	.....
21	Diseases of the eye	71.93	.....	.....	.86	19.23	.....	.....	.47
22	Diseases of the ear	13.92	.....	.....	.60	.....	.....	.....	.....
23	Catarrhs and common colds	27.84	.....	.....	.20	.....	.....	.....	.....
24	Bronchitis	23.20	.....	.....	.46	.....	.....	.....	.....
25	Pneumonia	4.64	.....	.....	.64	.....	.....	.....	4.78
26	Pulmonary phthisis	.....	.....	2.32	.65	19.23	.....	19.23	1.73
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.47
28	Other diseases of the respiratory system.	2.32	.....	.....	.11	.....	.....	.....	.....
29	Diseases of the heart and valves	9.28	.....	.....	.63	.....	.....	.....	.....
30	Other diseases of the circulatory system.	2.32	2.32	.....	.60	.....	.....	.....	.....
31	Tonsillitis	6.96	.....	.....	.16	19.23	.....	.....	.42
32	Dyspepsia, colic, and constipation.	83.53	.....	.....	.94	.....	.....	.....	.....
33	Other diseases of the digestive system.	99.77	.....	6.96	3.37	.....	.....	.....	.....
34	Diseases of the kidneys	6.96	.....	2.32	2.64	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	6.96	.....	4.64	.44	38.46	.....	.....	7.15
36	Diseases of the locomotor system (excluding muscular rheumatism).	25.52	.....	9.28	1.20	19.23	.....	.....	.26
37	Diseases of the integumentary system.	81.21	.....	.....	2.26	57.69	.....	.....	2.52
38	All other diseases	53.36	.....	.....	1.54	19.23	.....	.....	.89
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	2.32	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	116.01	.....	2.32	3.66	192.31	.....	.....	5.41
42	Dislocations	9.28	.....	.....	.25	19.23	.....	.....	.47
43	Fractures (not gunshot)	18.56	.....	2.32	2.42	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	44.08	.....	.....	.98	38.46	.....	.....	.79
45	Shot wounds	6.96	2.32	.....	.58	.....	.....	.....	.....
46	All other injuries	30.16	.....	.....	1.46	19.23	.....	.....	.21
	Total for disease	1,208.82	6.96	37.12	42.37	519.23	.....	19.23	31.26
	Total for injuries	225.06	4.64	4.64	9.34	269.23	.....	.....	6.88
	Total for all causes (Year 1888)	1,433.87	11.60	41.76	51.71	788.46	.....	19.23	38.15
	Total for all causes (Year 1887)	1,400.00	8.33	28.33	36.45	821.43	.....	.....	37.57
	Total for all causes (Decade)	1,731.03	14.87	31.60	.....	.....	.....	.....	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort McIntosh, Tex.				Fort Ringgold, Tex.				In the field, Great Plains, Southern Group.				
142.	151.	146.		138.	133.	190.		35.	20.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	7.25	.....	.....	.26	.....	.....	.....	.....	1
.....	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	2
77.46	.....	.....	5.85	311.59	.....	.....	8.67	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
183.10	.....	.....	1.64	43.48	.....	.....	.36	.....	.....	.....	.....	5
7.04	.....	.....	.23	.....	.....	.....	.....	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
218.31	.....	.....	9.22	72.46	.....	.....	3.82	.....	.....	.....	.....	8
42.25	.....	21.13	2.64	7.25	.....	.....	1.92	.....	.....	.....	.....	9
84.51	.....	.....	5.25	14.49	.....	.....	.30	.....	.....	.....	.....	10
28.17	.....	.....	.87	7.25	.....	.....	.08	.....	.....	.....	.....	11
.....	.....	.....	.....	7.25	.....	.....	.46	.....	.....	.....	.....	12
77.46	.....	.....	.46	14.49	.....	.....	.18	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
84.51	.....	.....	2.02	57.97	.....	.....	5.96	.....	.....	.....	.....	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
14.08	.....	.....	.19	.....	.....	.....	.....	.....	.....	.....	.....	18
147.89	.....	.....	1.44	21.74	.....	.....	.32	.....	.....	.....	.....	19
.....	.....	.....	.....	21.74	.....	.....	.18	.....	.....	.....	.08	20
14.08	.....	.....	1.31	.....	.....	.....	.....	.....	.....	.....	.....	21
14.08	.....	.....	.62	.....	.....	.....	.....	.....	.....	.....	.....	22
70.42	.....	.....	.81	.....	.....	.....	.....	.....	.....	.....	.....	23
70.42	.....	.....	1.33	21.74	.....	.....	1.72	.....	.....	.....	1.01	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25
7.04	7.04	.....	.40	.....	.....	.....	.....	.....	.....	.....	.....	26
14.08	.....	.....	.31	.....	.....	.....	.....	.....	.....	.....	.....	27
14.08	.....	.....	.50	.....	.....	.....	.....	.....	.....	.....	.....	28
28.17	.....	14.08	2.50	.....	.....	.....	.....	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
14.08	.....	.....	.31	7.25	.....	.....	.08	.....	.....	.....	.....	31
84.51	.....	.....	.90	7.25	.....	.....	.38	28.57	.....	.....	.08	32
183.10	.....	.....	3.08	14.49	.....	.....	5.35	85.71	.....	.....	.78	33
14.08	.....	.....	.17	.....	.....	.....	.....	.....	.....	.....	.....	34
.....	.....	14.08	.62	7.25	.....	.....	.10	28.57	.....	.....	.55	35
14.08	.....	.....	.69	.....	.....	.....	.....	.....	.....	.....	3.28	36
105.63	.....	.....	1.14	21.74	.....	.....	.48	142.86	.....	.....	1.56	37
84.51	.....	.....	5.98	14.49	.....	.....	.57	.....	.....	.....	.....	38
.....	.....	.....	.....	43.48	.....	.....	.55	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
204.23	.....	.....	5.66	57.97	.....	.....	3.03	28.57	.....	.....	.47	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
49.30	.....	.....	2.44	36.23	.....	.....	.69	28.57	.....	.....	.78	44
.....	.....	.....	.....	.....	7.25	.....	.....	.....	.....	.....	.....	45
112.67	7.04	.....	3.64	.....	.....	.....	.....	28.57	.....	.....	.39	46
1,697.18	7.04	49.30	50.49	681.16	.....	.....	31.16	285.71	.....	.....	7.34	
366.20	7.04	.....	11.74	137.68	7.25	.....	4.28	85.71	.....	.....	1.64	
2,063.38	14.08	49.30	62.23	818.84	7.25	.....	35.44	371.43	.....	.....	8.98	
1,715.23	19.87	6.62	58.39	1,037.59	15.04	37.59	50.38	1,350.00	.....	.....	15.07	
1,956.79	1.03	2.88	.....	1,722.72	15.29	53.24	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Region of the Cordilleras.				Northern Group, Cordilleras.			
	Mean strength, respectively, for years 1888, 1887, and decade.	5,606.	5,362.	5,630.		1,280.	1,244.	1,542.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	2.14	.54	.....	.27	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	21.23	.18	.....	.76	8.59	.....	.....	.34
3	Malarial fevers and resulting conditions.	79.02	.36	.....	2.33	79.69	.....	.....	1.98
4	Typho-malarial fever	.36	.....	.....	.04	.78	.....	.....	.06
5	Diarrhœa, including cholera morbus.	104.17	.....	.36	1.24	107.81	.....	.....	.94
6	Dysentery	13.56	.36	.54	.50	6.25	.....	.78	.15
7	Other miasmatic diseases	.....	.18	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	24.79	.....	.18	1.47	27.34	.....	.....	1.49
9	Syphilis and results	17.30	.....	2.68	1.73	15.62	.....	.....	1.37
10	Other venereal diseases	21.76	.....	.54	1.46	33.59	.....	.78	1.58
11	Vaccina	6.24	.....	.....	.12	3.12	.....	.....	.07
12	Other enthetic diseases	3.39	.....	.....	.12	.....	.....	.....	.....
13	Alcoholism	33.36	.18	.....	.35	44.53	.....	.....	.48
14	Other dietic diseases	1.78	.....	.89	.12	3.12	.....	2.34	.30
15	Rheumatism (including muscular).	104.71	.....	3.21	4.50	117.19	.....	2.34	5.12
16	Other constitutional diseases	3.75	.18	.54	.17	7.81	.....	.78	.42
17	Developmental diseases	.36	.....	.54	.05	.....	.....	.78	.....
18	Parasitic diseases	2.85	.....	.....	.03	3.12	.....	.....	.03
19	Headache and neuralgia	53.87	.....	.54	.95	57.03	.....	.78	.59
20	Other diseases of the nervous system.	14.81	.36	2.14	1.05	18.75	.78	1.56	1.32
21	Diseases of the eye	17.48	.....	1.25	.68	16.41	.....	.78	.21
22	Diseases of the ear	7.14	.....	.36	.40	10.16	.....	.78	.36
23	Catarrhs and common colds	33.71	.....	.....	.36	10.94	.....	.....	.11
24	Bronchitis	73.49	.....	.71	1.39	132.03	.....	2.34	2.08
25	Pneumonia	4.28	.89	.18	.31	3.12	.....	.....	.29
26	Pulmonary phthisis	3.57	.36	1.43	1.00	2.34	.....	1.56	1.32
27	Pleuritis	2.32	.....	.18	.16	2.34	.....	.78	.28
28	Other diseases of the respiratory system.	3.75	.18	.....	.13	7.03	.....	.....	.15
29	Diseases of the heart and valves	8.03	.....	1.78	.56	5.47	.....	.78	.18
30	Other diseases of the circulatory system.	1.78	.18	.54	.18	.78	.....	.....	.01
31	Tonsillitis	60.47	.....	.....	.94	67.19	.....	.....	.87
32	Dyspepsia, colic and constipation.	47.63	.....	.....	.76	45.31	.....	.....	.93
33	Other diseases of the digestive system.	84.91	.71	1.96	1.90	77.34	1.56	3.12	1.80
34	Diseases of the kidneys	2.50	.18	.....	.13	2.34	.....	.....	.15
35	Other diseases of the genito-urinary system (non-venereal).	14.27	.....	.71	.79	20.31	.....	.78	1.21
36	Diseases of the locomotor system (excluding muscular rheumatism).	7.49	.....	1.78	.64	7.03	.....	2.34	.73
37	Diseases of the integumentary system.	65.47	.....	.36	2.02	100.78	.....	.....	3.64
38	All other diseases	24.62	.....	.89	.79	21.88	.....	.....	.82
39	Heat-stroke	.54	.....	.....	.04	.....	.....	.....	.....
40	Frost bite and general freezing	6.07	.....	.18	.22	14.06	.....	.78	.71
41	Contusions and sprains	136.46	.....	.18	3.43	176.56	.....	.....	4.09
42	Dislocations	2.85	.....	.18	.19	3.91	.....	.....	.13
43	Fractures (not gunshot)	6.96	.....	.18	.91	10.16	.....	.....	1.16
44	Incised, lacerated, contused, and punctured wounds.	63.86	.....	.54	2.16	73.44	.....	.78	2.75
45	Shot wounds	3.92	1.07	.36	.63	3.91	1.56	1.56	.87
46	All other injuries	41.21	1.07	1.25	1.02	57.03	2.34	1.56	1.11
	Total for disease	972.35	4.82	24.26	30.37	1,067.19	2.34	23.44	31.37
	Total for injuries	261.86	2.14	2.85	8.61	339.06	3.91	4.69	10.82
	Total for all causes { Year 1888	1,234.21	6.96	27.11	38.98	1,406.25	6.25	28.12	42.20
	Total for all causes { Year 1887	1,157.22	10.07	32.45	40.72	1,162.37	9.65	33.77	42.94
	Total for all causes { Decade	1,584.32	12.81	33.89	.....	1,477.92	12.84	29.50	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Spokane, Wash.				Fort Sherman, Idaho.				Fort Missoula, Mont.				
237.	247.	123.		236.	252.	197.		189.	166.	139.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
				4.24			.13					2
80.17			2.10	21.19			.57	5.29			.01	3
												4
160.34			1.64	76.27			.88	79.37			.45	5
4.22			.55	8.47			.10	5.29			.04	6
												7
12.66			.24	42.37			1.99					8
16.88			1.44	4.24			.45	10.58			.59	9
8.44			.36	8.47			.17	10.58			1.03	10
												11
												12
71.73			81	93.22			1.32	10.58			.06	13
				12.71		12.71	.81					14
135.02		12.66	10.65	114.41			1.93	84.66			8.43	15
4.22			.05	12.71		4.24	1.46					16
												17
16.88			.17									18
33.76			.36	101.69		4.24	1.37	74.07			.49	19
				50.85		4.24	2.99	5.29			2.31	20
8.44		4.22	.21	12.71			.14	26.45			.20	21
4.22			.29	8.47			.13	5.29			.03	22
4.22			01	8.47			.10	5.29			.03	23
236.29			2.78	114.41		4.24	1.64	84.66			1.53	24
8.44			.73					5.29			.35	25
								10.58		5.29	2.57	26
4.22			.08									27
			.27	12.71			.15	10.58			.07	28
8.44			.07	4.24		4.24	.20	5.29			.01	29
												30
75.95			.97	55.08			.73	100.53			1.13	31
63.29			2.76	50.85			1.24	47.62			.55	32
33.76		4.22	1.21	46.61	4.24		.61	47.62	5.29		1.68	33
8.44			.78					5.29			.03	34
21.10			.59	8.47			1.73	42.33			2.62	35
4.22		4.22	1.52	4.24			.28	26.45		10.58	1.76	36
54.85			1.19	122.88			7.11	95.24			3.43	37
12.66			.15	16.95			1.63	31.75			.26	38
												39
				12.71			.52	21.16			1.04	40
215.19			3.87	122.88			2.56	47.62			1.72	41
4.22			.02	4.24			.46					42
8.44			1.97	12.71			1.01	5.29			.10	43
84.39			2.27	38.14			1.23	95.24			3.77	44
16.88			4.30		4.24				5.29			45
67.51	4.22	4.22	1.72	63.56	4.24		.64	21.16			.40	46
1,092.83		25.32	31.96	1,016.95	4.24	33.90	29.86	835.98	5.29	15.87	29.66	
396.62	4.22	4.22	14.16	254.24	8.47		6.41	190.48	5.29		7.04	
1,489.45	4.22	29.54	46.11	1,271.19	12.71	33.90	36.27	1,026.45	10.58	15.87	36.70	
1,004.05	12.15	32.39	53.01	1,031.75	7.94	43.65	37.12	1,819.28	6.02	48.19	49.31	
1,092.38	6.48	25.93		1,318.92	5.09	22.38		2.197.88	7.17	49.89		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Walla Walla, Wash.				Helena, Mont.			
	Mean strength, respectively, for the years 1888, 1887, and decade.	291.	287.	254.		2.	1.	—.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								
2	Other specific contagious and infectious diseases, including erysipelas.	20.62			.84				
3	Malarial fevers and resulting conditions	79.04			1.34				
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	137.46			1.10				
6	Dysentery	3.44			.02				
7	Other miasmatic diseases								
8	Gonorrhœa and results	48.11			3.82				
9	Syphilis and results	37.80			3.63				
10	Other venereal diseases	37.80			2.40				
11	Vaccina	3.44			.11				
12	Other enthetic diseases								
13	Alcoholism	10.31			.08				
14	Other dietic diseases	3.44			.66				
15	Rheumatism (including muscular)	85.91			2.90				
16	Other constitutional diseases	6.87			.40				
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia	44.67			.57				
20	Other diseases of the nervous system	10.31			.85				
21	Diseases of the eye	17.18			.37				
22	Diseases of the ear	20.62			.56				
23	Catarrhs and common colds	3.44			.01				
24	Bronchitis	164.95		3.44	3.32				
25	Pneumonia	3.44			.42				
26	Pulmonary phthisis	3.44		3.44	.70				
27	Pleuritis	6.87		3.44	1.15				
28	Other diseases of the respiratory system	10.31			.23				
29	Diseases of the heart and valves	3.44			.02				
30	Other diseases of the circulatory system	3.44			.05				
31	Tonsillitis	20.62			.35				
32	Dyspepsia, colic and constipation	6.87			.15				
33	Other diseases of the digestive system	99.66		10.31	1.58				
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal).	17.18			1.28				
36	Diseases of the locomotor system (excluding muscular rheumatism),	3.44			.08				
37	Diseases of the integumentary system	123.71			2.70				
38	All other diseases	34.36			1.43				
39	Heat-stroke								
40	Frost-bite and general freezing	3.44			.13				
41	Contusions and sprains	209.62			7.39				
42	Dislocations	3.44			.04				
43	Fractures (not gunshot)	10.31			1.11				
44	Incised, lacerated, contused, and punctured wounds.	54.98		3.44	2.92				
45	Shot wounds								
46	All other injuries	41.24		3.44	1.18				
	Total for disease	1,072.16		20.62	33.13				
	Total for injuries	323.02		6.87	12.77				
	Total for all causes (Year 1888)	1,395.19		27.49	45.90				
	Total for all causes (Year 1887)	1,097.56	17.42	27.87	28.98	3,000.00			202.74
	Total for all causes (Decade)	1,664.17	10.24	32.68					

herein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Boise Barracks, Idaho.				Fort Washakie, Wyo.				Camp Sheridan, Wyo.				In the field, Northern Cordilleras.				
98.	98.	95.		126.	124.	101.		56.	52.	—.		45.	17.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
																1
40.82			1.59													2
214.29			4.01	182.54			5.03	160.71			8.15	22.22			.61	3
				7.94			.61									4
142.85			.86	87.30			.87	17.86			.10	22.22			.12	5
10.20		10.20	.06	15.87			.15									6
																7
40.82			2.15	31.75			.41									8
20.41			.84				.43									9
10.20			1.03	174.60			5.62	35.71		17.86	2.68	2 2.22			.91	10
20.41			.36					17.86			.34					11
																12
81.63			.59	23.81			.15	17.86			.05	22.22			.06	13
																14
193.88			3.65	182.54			3.58	89.29			4.39	66.67			1.82	15
20.41			.53	15.87			.13									16
		10.20														17
																18
30.61			.31	79.37			.39	17.86			.15					19
30.61			.84	15.87	7.94		.13	17.86		17.86	3.07	44.44			.61	20
40.82			.25	15.87			.15									21
10.20		10.20	1.14					35.71			1.41					22
91.84			1.09													23
102.04			1.20	47.62		7.94	.63	107.14			2.88					24
			.14													25
			10.20													26
																27
												22.22			.30	28
				15.87			1.28									29
																30
40.82			.20	119.05			1.32	196.43			3.85					31
81.63			.42	47.62			.26	35.71			.24	88.89			.36	32
153.06			.89	111.11			6.18	196.43			3.71	44.44			.36	33
																34
20.41			.56	23.81			.30	17.86		17.86	.83					35
10.20			1.51													36
122.45			2.84	79.37			5.62	107.14			1.37	111.11			4.37	37
20.41			1.20	23.81			.35									38
																39
10.20			1.62	63.49			.46	17.86		17.86	5.95					40
397.96			4.88	134.92			2.23	142.86			5.42	266.67			4.01	41
10.20			.11					17.86			.59					42
			1.67	23.81			1.76	17.86			.93					43
71.43			3.68	150.79			4.10	71.43			3.61	22.22			1.03	44
				7.94		15.87	.76									45
163.27			2.70	23.81			.76	53.57	17.86		.54	88.89			1.21	46
1,551.02		30.61	38.45	1,301.59	7.94	7.94	33.59	1,071.43		53.57	33.23	466.67			9.53	
653.06			14.66	404.76		15.87	10.06	321.43	17.86	17.86	17.03	377.78			6.25	
2,204.08		30.61	53.11	1,706.35	7.94	23.81	43.65	1,392.86	17.86	71.43	50.25	844.44			15.79	
1,326.53		20.41	47.78	1,129.03	8.06	16.13	63.01	923.08		57.69	33.40				1.92	
1,334.39	8.41	14.72		1,613.03	3.95	27.64										

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	*Middle Group, Cordilleras.*				Fort Klamath, Oregon.			
	Mean strength, respectively, for years 1888, 1887, and decade.	2,241.	2,155.	2,115.		53.	47.	91.	
	Causes of admission to sick report.	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	4.46	89	.....	.57	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	37.48	.45	.....	.96	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	58.90	.45	.....	1.53	150.94	18.87	.....	2.94
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	88.80	.....	.....	.70	169.81	.....	.....	2.84
6	Dysentery	1.34	.....	.....	.02	18.87	.....	.....	.10
7	Other miasmatic diseases	.....	.45	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	19.19	.....	.....	1.18	.....	.....	.....	.....
9	Syphilis and results	13.83	.....	2.23	1.19	18.87	.....	.....	.93
10	Other venereal diseases	16.51	.....	.....	1.18	.....	.....	.....	.....
11	Vaccina	7.14	.....	.....	.10	.....	.....	.....	.....
12	Other enthetic diseases	3.12	.....	.....	.07	.....	.....	.....	.....
13	Alcoholism	41.95	.45	.....	.47	18.87	.....	.....	.10
14	Other dietic diseases	1.78	.....	.45	.08	.....	.....	.....	.....
15	Rheumatism (including muscular).	106.20	.....	3.12	4.44	18.87	.....	.....	.10
16	Other constitutional diseases	1.78	.45	.45	.07	18.87	.....	.....	.26
17	Developmental diseases	.45	.....	.89	.11	.....	.....	.....	.....
18	Parasitic diseases	4.02	.....	.....	.05	56.60	.....	.....	.41
19	Headache and neuralgia	56.67	.....	.45	1.35	.....	.....	.....	.....
20	Other diseases of the nervous system.	16.06	.45	2.68	1.34	37.74	.....	18.87	2.94
21	Diseases of the eye	19.19	.....	.89	.94	75.47	.....	.....	.41
22	Diseases of the ear	6.69	.....	.45	.59	18.87	.....	.....	1.60
23	Catarrhs and common colds	59.79	.....	.....	.64	18.87	.....	.....	.10
24	Bronchitis	62.47	.....	.....	1.27	.....	.....	.....	.....
25	Pneumonia	4.46	.89	.45	.27	.....	.....	.....	.....
26	Pulmonary phthisis	2.68	.89	1.78	.95	.....	.....	.....	.....
27	Pleuritis	.89	.....	.....	.05	.....	.....	.....	.....
28	Other diseases of the respiratory system.	1.78	.....	.....	.17	.....	.....	.....	.....
29	Diseases of the heart and valves	9.37	.....	2.23	.67	37.74	.....	18.87	3.09
30	Other diseases of the circulatory system.	2.68	.45	.89	.22	.....	.....	.....	.....
31	Tonsillitis	64.70	.....	.....	1.15	37.74	.....	.....	.57
32	Dyspepsia, colic, and constipation	31.68	.....	.....	.33	37.74	.....	.....	.36
33	Other diseases of the digestive system.	97.28	.....	2.23	1.72	113.21	.....	.....	.88
34	Diseases of the kidneys	2.23	.45	.....	.15	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	9.82	.....	.45	.58	18.87	.....	.....	.05
36	Diseases of the locomotor system (excluding muscular rheumatism).	8.48	.....	2.68	.47	18.87	.....	.....	2.53
37	Diseases of the integumentary system.	54.44	.....	.45	1.63	18.87	.....	.....	.15
38	All other diseases	30.79	.....	1.34	.99	.....	.....	.....	.....
39	Heat-stroke	.45	.....	.....	.05	.....	.....	.....	.....
40	Frost-bite and general freezing	7.14	.....	.....	.15	.....	.....	.....	.....
41	Contusions and sprains	108.88	.....	.....	2.81	75.47	.....	.....	1.08
42	Dislocations	3.57	.....	.45	.31	.....	.....	.....	.....
43	Fractures (not gunshot)	5.35	.....	.45	1.05	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	51.76	.....	.89	1.86	.....	.....	.....	.....
45	Shot wounds	3.57	.....	.....	.61	.....	.....	.....	.....
46	All other injuries	39.71	.....	.89	1.31	18.87	.....	.....	1.24
	Total for disease	949.13	6.25	24.10	28.21	905.66	18.87	37.74	20.36
	Total for injuries	220.44	.....	2.68	8.16	94.34	.....	.....	2.32
	Total for all causes: Year 1888	1,169 57	6.25	26.77	36.38	1,000.00	18.87	37.74	22.68
	Total for all causes: Year 1887	1,106.26	8.35	34,34	34.27	638.30	.....	106.38	22.97
	Total for all causes: Decade	1,615.85	9.74	32.43	.....	1,242.89	8.75	39.39	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Bidwell, Cal.				Fort McDermit, Nev.				Fort Bridger, Wyo.				
121.	117.	88.		40.	40.	52.		169.	168.	86.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
												1
				25.00			.20					2
57.85			.59					136.09			3.17	3
												4
115.70			.54	125.00			.55	29.59			.16	5
8.26			.09									6
												7
24.79			1.24									8
												9
24.79			2.08									10
16.53			.09									11
												12
16.53			.11					53.25			.44	13
												14
157.02			3.43					71.01		5.92	6.85	15
												16
												17
												18
74.38			.47	25.00			.14	47.34			5.29	19
57.85		8.26	3.03	25.00			.07	41.42		11.83	2.97	20
33.06			1.92			25.00		11.83		5.92	2.33	21
24.79		8.26	.14					11.83			.32	22
				75.00			.55	5.92			.03	23
33.06			1.67					59.17			.55	24
												25
												26
												27
8.26			.14									28
								17.75		5.92	.86	29
												30
57.85			.47	25.00			.27	118.34			1.33	31
16.53			.09	50.00			.14	29.59			.13	32
16.53			.34	125.00			1.64	142.01		11.83	1.44	33
												34
8.26			.05									35
33.06		8.26	3.68					11.83		5.92	.44	36
74.38			1.92					29.59			.97	37
8.26			.02	75.00		25.00	.34					38
												39
												40
198.35			2.94	25.00			.27	106.51			2.72	41
8.26			.79									42
												43
49.59			1.45					65.09		5.92	2.85	44
								11.83			1.55	45
41.32			.27	75.00		25.00	1.30	47.34			1.26	46
867.77		24.79	22.11	550.00		50.00	3.89	816.57		47.34	27.27	
297.52			5.44	400.00		25.00	1.57	230.77		5.92	8.37	
1,165.29		24.79	27.55	650.00		75.00	5.46	1,047.34		53.25	35.65	
837.61		25.64	22.36	800.00		25.00	19.52	934.52	5.95	35.71	31.18	
1,527.87	6.83	19.34		1,805.02	9.65	34.75		1,288.37	6.98	44.19		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Camp Pilot Butte, Wyo.				Fort Douglas, Utah.			
	Mean strength, respectively, for years 1888, 1887, and decade.	80.	87.	—.		330.	375.	292.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	12.50	.....	.....	.75	12.12	3.03	.....	2.26
2	Other specific contagious and infectious diseases, including erysipelas.	37.50	12.50	.....	1.43	15.15	.....	.....	.75
3	Malarial fevers and resulting conditions.	.....	.....	.....	.....	6.06	.....	.....	.41
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	62.50	.....	.....	.31	100.00	.....	.....	.92
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	12.50	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	9.09	.....	.....	.92
9	Syphilis and results	.....	.....	.....	.....	39.39	.....	6.06	4.06
10	Other venereal diseases	12.50	.....	.....	.34	21.21	.....	.....	.96
11	Vaccina	12.50	.....	.....	.10	.....	.....	.....	.....
12	Other enthetic diseases	.....	.....	.....	.....	.....	.....	.....	.....
13	Alcoholism	87.50	.....	.....	.48	75.76	.....	.....	.76
14	Other dietic diseases	.....	.....	.....	.....	3.03	.....	.....	.04
15	Rheumatism (including muscular)	162.50	.....	12.50	5.33	157.58	.....	3.03	7.26
16	Other constitutional diseases	.....	.....	.....	.....	3.03	3.03	.....	.07
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	6.06	.....	.....	.07
19	Headache and neuralgia	50.00	.....	.....	.31	84.85	.....	.....	1.37
20	Other diseases of the nervous system.	.....	.....	.....	.....	3.03	.....	.....	.01
21	Diseases of the eye	12.50	.....	.....	.55	21.21	.....	.....	.31
22	Diseases of the ear	12.50	.....	.....	1.43	3.03	.....	.....	.02
23	Catarrhs and common colds	12.50	.....	.....	.07	12.12	.....	.....	.11
24	Bronchitis	50.00	.....	.....	.92	54.55	.....	.....	1.24
25	Pneumonia	12.50	.....	.....	.68	6.06	3.03	3.03	.19
26	Pulmonary phthisis	.....	.....	.....	.....	6.06	3.03	3.03	1.34
27	Pleuritis	.....	.....	.....	.....	3.03	.....	.....	.23
28	Other diseases of the respiratory system.	12.50	.....	.....	.17	.....	.....	.....	.12
29	Diseases of the heart and valves	37.50	.....	12.50	1.47	15.15	.....	.....	.65
30	Other diseases of the circulatory system.	12.50	.....	.....	.92	12.12	3.03	6.06	1.05
31	Tonsillitis	75.00	.....	.....	1.06	78.79	.....	.....	1.36
32	Dyspepsia, colic, and constipation	25.00	.....	.....	.14	18.18	.....	.....	.15
33	Other diseases of the digestive system.	137.50	.....	12.50	7.07	133.33	.....	.....	2.40
34	Diseases of the kidneys	12.50	12.50	.....	1.33	6.06	.....	.....	.55
35	Other diseases of the genito-urinary system (non-venereal)	.....	.....	.....	.....	6.06	.....	3.03	.55
36	Diseases of the locomotor system (excluding muscular rheumatism).	12.50	.....	12.50	2.42	3.03	.....	.....	.06
37	Diseases of the integumentary system.	25.00	.....	.....	.99	90.91	.....	3.03	2.26
38	All other diseases	112.50	.....	12.50	2.83	81.82	.....	3.03	3.01
39	Heat-stroke	.....	.....	.....	.....	3.03	.....	.....	.07
40	Frost-bite and general freezing	.....	.....	.....	.....	6.06	.....	.....	.04
41	Contusions and sprains	87.50	.....	.....	2.15	130.30	.....	.....	3.54
42	Dislocations	.....	.....	.....	.....	.....	.....	.....	.....
43	Fractures (not gunshot)	12.50	.....	.....	.68	3.03	.....	.....	.04
44	Incised, lacerated, contused, and punctured wounds.	162.50	.....	.....	7.38	30.30	.....	.....	1.24
45	Shot wounds	.....	.....	.....	.....	.....	.....	.....	.....
46	All other injuries	75.00	.....	.....	1.95	42.42	.....	3.03	1.36
	Total for disease	1,000.00	37.50	62.50	31.11	1,087.88	15.15	30.30	35.44
	Total for injuries	337.50	.....	.....	12.16	215.15	.....	3.03	6.30
	Total for all causes (Year 1888)	1,337.50	37.50	62.50	43.27	1,303.03	15.15	33.33	41.75
	Total for all causes (Year 1887)	1,126.44	11.49	34.48	53.41	1,354.67	5.33	34.67	43.99
	Total for all causes (Decade)	.....	.....	.....	.....	1,516.59	7.87	32.84	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Du Chesne, Utah.				Post near Denver, Colo. (Fort Logan).				Fort Crawford, Colo.				
222.	223.	—.		97.	14.	—.		82.	83.	93.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
				20.62			2.20	12.20			1.93	1
40.54			.87	30.93			1.61					2
63.06			2.76	82.47			6.96	12.20			.47	3
												4
135.14			1.17	381.44			1.97	36.59			.30	5
4.50			.15									6
												7
9.01			.46	82.47			8.76	12.20			1.17	8
13.51		4.50	.84	51.55			3.80					9
				30.93			1.77					10
												11
				10.31			.06					12
13.51			.07	10.31			.08					13
												14
139.64		13.51	3.63	144.33			9.41	73.17			1.40	15
4.50		4.50	.53									16
												17
4.50			.09									18
126.13		4.50	1.45	41.24			.96	24.39			.27	19
4.50			1.27	10.31			2.56	12.20			2.53	20
27.03			1.59	92.78			1.72	48.78			3.97	21
4.50			.07					24.39			9.13	22
378.38			4.31	257.73			2.59					23
108.11			2.52	432.99			5.32	12.20			.03	24
9.01			1.06					12.20	12.20		.03	25
9.01		4.50	2.04	10.31			6.53					26
												27
											2.43	28
4.50			.02					12.20			.10	29
												30
18.02			.39	103.09			1.61	36.59			.67	31
31.53			.30	10.31			.03	85.37			.57	32
135.14			1.72	319.59			4.14	36.59			.60	33
												34
				72.16			3.55					35
9.01			.10	30.93			.62	12.20		12.20	.13	36
108.60			2.47	72.16			1.10	12.20			.63	37
9.01			.44	10.31			1.58	85.37			.87	38
												39
45.04			1.11	10.31			.23					40
108.11			3.20	113.40			3.35	24.39			1.33	41
9.01			.15	10.31			1.58				.47	42
			.22	10.31			.25					43
54.05			3.08	41.24			.84	73.17			1.67	44
4.50			.46					12.20			6.33	45
31.53			.54	61.86			1.77	85.37			1.97	46
1,405.41		31.53	30.33	2,309.28			68.93	560.98	12.20	12.20	27.22	
252.25			8.75	247.42			8.03	195.12			11.76	
1,657.66		31.53	39.08	2,556.70			76.95	756.10	12.20	12.20	38.98	
1,004.48	8.97	62.78	29.92	1,571.43			26.03	915.66	12.05	48.19	44.49	
								1,889.01	12.93	47.41		

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Lewis, Colo.				Fort Union, N. Mex.			
	Mean strength, respectively, for years 1888, 1887, and decade.	316.	295.	172.		231.	275.	134.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non effective.	Admissions.	Deaths.	Discharges.	Constantly non effective.
1	Enteric fever	3.16	3.16	.....	.12	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	22.15	.....	.....	.42	216.45	.....	.....	4.18
3	Malarial fevers and resulting conditions.	85.44	.....	.....	1.90	56.28	.....	.....	.67
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	15.82	.....	.....	.29	38.96	.....	.....	.32
6	Dysentery	.....	.....	.....	.....	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	3.16	.....	.....	.51	25.97	.....	.....	1.21
9	Syphilis and results	15.82	.....	6.33	1.26	.....	.....	.....	.....
10	Other venereal diseases	12.66	.....	.....	.64	4.33	.....	.....	.22
11	Vaccina	15.82	.....	.....	.29	25.97	.....	.....	.45
12	Other enthetic diseases	9.49	.....	.....	.23	12.99	.....	.....	.32
13	Alcoholism	31.65	.....	.....	.78	25.97	4.33	.....	.47
14	Other dietic diseases	.....	.....	.....	.....	12.99	.....	4.33	.69
15	Rheumatism (including muscular)	60.13	.....	.....	3.42	56.28	.....	.....	2.07
16	Other constitutional diseases	.....	.....	.....	.....	4.33	.....	.....	.04
17	Developmental diseases	.....	.....	3.16	.....	4.33	.....	4.33	1.06
18	Parasitic diseases	3.16	.....	.....	.02	8.66	.....	.....	.17
19	Headache and neuralgia	25.32	.....	.....	.19	60.61	.....	.....	3.63
20	Other diseases of the nervous system.	6.33	.....	3.16	2.32	21.64	.....	4.33	1.71
21	Diseases of the eye	6.33	.....	.....	.66	.....	.....	.....	.....
22	Diseases of the ear	3.16	.....	.....	.16	4.33	.....	.....	.01
23	Catarrhs and common colds	28.48	.....	.....	.35	4.33	.....	.....	.05
24	Bronchitis	37.97	.....	.....	1.85	17.32	.....	.....	.50
25	Pneumonia	9.49	.....	.....	.63	4.33	.....	.....	.25
26	Pulmonary phthisis	3.16	.....	3.16	.31	.....	.....	.....	.....
27	Pleuritis	.....	.....	.....	.....	.....	.....	.....	.....
28	Other diseases of the respiratory system.	3.16	.....	.....	.03	.....	.....	.....	.....
29	Diseases of the heart and valves	6.33	.....	3.16	.42	4.33	.....	.....	.04
30	Other diseases of the circulatory system.	.....	.....	.....	.....	4.33	.....	.....	.32
31	Tonsillitis	34.81	.....	.....	.54	12.99	.....	.....	.15
32	Dyspepsia, colic, and constipation	12.66	.....	.....	.19	34.63	.....	.....	.32
33	Other diseases of the digestive system.	101.27	.....	.....	2.40	38.96	.....	4.33	1.09
34	Diseases of the kidneys	.....	.....	.....	.....	.....	.....	.....	.....
35	Other diseases of the genito urinary system (non-venereal).	9.49	.....	.....	.40	17.32	.....	.....	1.23
36	Diseases of the locomotor system (excluding muscular rheumatism).	.....	.....	.....	.....	4.33	.....	.....	.18
37	Diseases of the integumentary system.	56.96	.....	.....	2.50	34.63	.....	.....	2.27
38	All other diseases	12.66	.....	.....	.29	12.99	.....	.....	.22
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	4.33	.....	.....	.19
41	Contusions and sprains	79.11	.....	.....	1.62	90.91	.....	.....	2.22
42	Dislocations	9.49	.....	3.16	.96	.....	.....	.....	.....
43	Fractures (not gunshot)	.....	.....	.....	.83	17.32	.....	.....	2.67
44	Incised, lacerated, contused, and punctured wounds.	47.47	.....	.....	1.26	34.63	.....	4.33	1.29
45	Shot wounds	9.49	.....	.....	1.08	4.33	.....	.....	.66
46	All other injuries	3.16	.....	.....	.98	30.30	.....	.....	2.06
	Total for disease	636.08	3.16	18.99	23.11	770.56	4.33	17.32	23.83
	Total for injuries	148.73	.....	3.16	6.73	181.82	.....	4.33	9.10
	Total for all causes: Year 1888	784.81	3.16	22.15	29.84	952.38	4.33	21.65	32.93
	Total for all causes: Year 1887	1,016.95	13.56	20.34	38.86	869.09	14.55	10.91	28.41
	Total for all causes: Decade	1,940.73	8.13	28.47	.....	1,327.37	18.64	22.37	.....

therein, the cause and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Wingate, N. Mex.				Fort Marcy, N. Mex.				In the field, Middle Group, Cordilleras.				
314.	325.	229.		85.	80.	74.		101.	21.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
								9.90			.60	1
9.55			.87	11.76			.42	19.80			.35	2
50.96			.92					128.71			1.57	3
												4
73.25			.54	35.29			.26	178.22			1.49	5
												6
												7
47.77			1.46	47.06			2.57				.16	8
9.55			.84				.06	9.90			.54	9
31.85			3.61	82.35			5.63	9.90			.16	10
3.18			.03	11.76			.03					11
												12
60.51			.66	117.65			1.03	9.90			.03	13
												14
66.88		3.18	4.22	176.47			7.39	217.82			2.11	15
												16
												17
												18
25.48			.45	117.65			.90	29.70			.41	19
25.48	3.18		.37									20
6.37			.77	23.53			.19					21
				23.53			2.57					22
12.74			.11					9.90			.03	23
22.29			.32	152.94			2.09	9.90			.08	24
												25
					11.76	11.76	5.88					26
				11.76			.45					27
				11.76			1.29					28
6.37		3.18	2.07					9.90			.51	29
												30
121.02			3.37	141.18			1.77	19.80			.14	31
57.32			1.01	58.82			.35	19.80			.27	32
28.66		3.18	.53	82.35			.61	49.50			.35	33
								19.80			.46	34
3.18			.86	35.29			.90					35
		3.18		11.76		11.76	.22	19.80			.32	36
38.22			.90	11.76			.03	49.50			1.22	37
22.29			1.51					49.50			.46	38
			.30									39
6.37			.03								.14	40
130.57			4.47	176.47			4.53	79.21			1.11	41
				11.76			.93					42
9.55			2.79	23.53		11.76	5.40					43
66.88			2.48	70.59			1.03	39.60			.46	44
19.11			1.80	47.06			.77	138.61			.92	45
												46
722.93	3.18	12.74	25.43	1,164.71	11.76	23.53	34.65	871.29			11.25	
232.48			11.88	329.41		11.76	12.66	257.43			2.62	
955.41	3.18	12.74	37.30	1,494.12	11.76	35.29	47.32	1,128.71			13.88	
1,424.62		40.00	30.51	1,287.50	37.50	37.50	28.12	1 428.57			33.53	
1,817.46	4.79	38.86		747.65	14.76	37.38						

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	*Southern Group, Cordilleras.*				Fort Mojave, Ariz			
	Mean strength, respectively, for years 1888, 1887, and decade.	2,085.	1,963.	1,973.		47.	49.	43.	
	Causes of admission to sick report.	*Admissions*	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.96	.48	.....	.10	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	11.51	.....	.....	.79	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	100.24	.48	.....	3.41	21.28	.....	.....	2.85
4	Typho-malarial fever	.48	.....	.....	.07	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	118.47	.....	.96	2.01	127.66	.....	.....	.99
6	Dysentery	31.18	.96	.96	1.23	85.11	.....	.....	1.16
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	29.26	.....	.48	1.77	63.83	.....	.....	2.21
9	Syphilis and results	22.06	.....	4.80	2.52	21.28	.....	21.28	5.17
10	Other venereal diseases	20.14	.....	.96	1.69	.....	.....	.....	.....
11	Vaccina	7.19	.....	.....	.18	.....	.....	.....	.....
12	Other enthetic diseases	5.76	.....	.....	.24	.....	.....	.....	.....
13	Alcoholism	17.27	.....	.....	.14	.....	.....	.....	.....
14	Other dietic diseases	.96	.....	.48	.05	21.28	.....	21.28	1.80
15	Rheumatism (including muscular)	95.44	.....	3.84	4.18	42.55	.....	.....	.81
16	Other constitutional diseases	3.36	.....	.48	.13	.....	.....	.....	.....
17	Developmental diseases	.48	.....	.....	.02	.....	.....	.....	.....
18	Parasitic diseases	1.44	.....	.....	.01	.....	.....	.....	.....
19	Headache and neuralgia	48.92	.....	.48	.75	106.38	.....	.....	.81
20	Other diseases of the nervous system.	11.03	.....	1.92	.57	21.28	.....	21.28	.70
21	Diseases of the eye	16.31	.....	1.92	.68	21.28	.....	.....	.12
22	Diseases of the ear	5.76	.....	.....	.21	42.55	.....	.....	1.16
23	Catarrhs and common colds	19.66	.....	.....	.20	.....	.....	.....	.....
24	Bronchitis	49.40	.....	.48	1.09	85.11	.....	.....	11.28
25	Pneumonia	4.80	1.44	.....	.37	.....	.....	.....	.....
26	Pulmonary phthisis	5.28	.....	.96	.86	21.28	.....	.....	5.64
27	Pleuritis	3.84	.....	.....	.20	.....	.....	.....	.....
28	Other diseases of the respiratory system.	3.84	.48	.....	.08	.....	.....	.....	.....
29	Diseases of the heart and valves	8.15	.....	1.92	.66	21.28	.....	.....	.23
30	Other diseases of the circulatory system.	1.44	.....	.48	.23	.....	.....	.....	.....
31	Tonsillitis	51.80	.....	.....	.77	.....	.....	.....	.....
32	Dyspepsia, colic, and constipation	66.19	.....	.....	1.11	148.94	.....	.....	2.96
33	Other diseases of the digestive system.	76.26	.96	.96	2.16	106.38	.....	.....	5.12
34	Diseases of the kidneys	2.88	.....	.....	.08	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	15.35	.....	.96	.76	21.28	.....	.....	.23
36	Diseases of the locomotor system (excluding muscular rheumatism).	6.71	.....	.48	.76	21.28	.....	.....	.47
37	Diseases of the integumentary system.	55.64	.....	.48	1.45	63.83	.....	.....	.99
38	All other diseases	19.66	.....	.96	.56	42.55	.....	.....	1.98
39	Heat-stroke	.96	.....	.....	.05	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	141.49	.....	.48	3.69	42.55	.....	.....	3.02
42	Dislocations	1.44	.....	.....	.10	.....	.....	.....	.....
43	Fractures (not gunshot)	6.71	.....	.....	.62	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	70.98	.....	.....	2.13	63.83	.....	.....	1.40
45	Shot wounds	4.32	1.92	.....	.49	21.28	.....	.....	8.02
46	All other injuries	33.09	1.44	1.44	.66	21.28	.....	.....	.12
	Total for disease	939.09	4.80	24.94	32.07	1,106.38	.....	63.83	46.68
	Total for injuries	258.99	3.36	1.92	7.74	148.94	.....	.....	12.56
	Total for all causes: Year 1888	1,198.08	8.15	26.86	39.81	1,255.32	.....	63.83	59.24
	Total for all causes: Year 1887	1,209.88	12.23	29.55	46.41	979.59	.....	40.82	26.89
	Total for all causes: Decade	1,633.70	16.07	39.18	.....	1,043.67	25.29	59.77	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Whipple Barracks, Ariz.				Fort Verde, Ariz.				Fort Apache, Ariz.				
186.	179.	128.		66.	52.	110.		196.	190.	178.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
53.76	.....	.....	2.17	15.15	.....	.....	.08	66.33	.....	.....	1.84	3
5.38	.....	.....	.73	.....	.....	.....	.....	.....	.....	.....	.....	4
220.40	.....	5.38	7.96	106.06	.....	.....	1.12	30.61	.....	.....	.20	5
26.88	.....	.....	1.70	.....	.....	.....	.....	5.10	.....	.....	.22	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
5.38	.....	.....	2.86	.....	.....	.....	.....	10.20	.....	.....	.14	8
5.38	.....	.....	.65	15.15	.....	.....	.83	5.10	.....	.....	.99	9
5.38	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....	10
.....	.....	.....	.....	15.15	.....	.....	.12	30.61	.....	.....	.74	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
32.26	.....	.....	.59	.....	.....	.....	.....	5.10	.....	.....	.06	13
5.38	.....	.....	.07	.....	.....	.....	.....	.....	.....	.....	.....	14
118.28	.....	16.13	11.19	181.82	.....	30.30	12.46	76.53	.....	5.10	4.56	15
10.75	.....	.....	.65	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	5.10	.....	.....	.21	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
10.75	.....	.....	.72	106.06	.....	.....	2.53	51.02	.....	.....	.63	19
5.38	.....	5.38	1.54	15.15	.....	.....	1.28	25.51	.....	.....	.20	20
5.38	.....	10.75	.22	.....	.....	.....	.....	.....	.....	.....	.....	21
5.38	.....	.....	.32	.....	.....	.....	.....	5.10	.....	.....	.26	22
.....	.....	.....	.....	.....	.....	.....	.....	56.12	.....	.....	.49	23
43.01	.....	.....	.81	60.61	.....	.....	1.37	35.71	.....	.....	1.44	24
10.75	.....	.....	1.23	.....	.....	.....	.....	.....	.....	.....	.....	25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	5.10	.....	.....	1.41	27
5.38	.....	.....	.19	.....	.....	.....	.....	5.10	.....	.....	.11	28
5.38	.....	5.38	1.22	15.15	.....	.....	1.20	15.31	.....	.....	.64	29
.....	.....	.....	.....	.....	.....	.....	.....	5.10	.....	.....	.99	30
48.39	.....	.....	1.01	60.61	.....	.....	1.41	10.20	.....	.....	.28	31
37.63	.....	.....	1.56	45.45	.....	.....	.58	35.71	.....	.....	.49	32
16.13	.....	5.38	1.67	15.15	.....	.....	.17	137.76	5.10	.....	3.71	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
10.75	.....	.....	.19	45.45	.....	.....	3.39	5.10	.....	.....	.17	35
5.38	.....	5.38	.31	.....	.....	.....	.....	5.10	.....	.....	.40	36
37.63	.....	.....	.97	30.30	.....	.....	1.08	61.22	.....	.....	1.45	37
16.13	.....	5.38	1.03	15.15	.....	.....	.12	30.61	.....	.....	.86	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
43.01	.....	.....	.73	242.42	.....	.....	7.45	76.53	.....	.....	1.67	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
.....	.....	.....	.....	30.30	.....	.....	2.24	5.10	.....	.....	.25	43
64.52	.....	.....	3.19	30.30	.....	.....	.75	66.33	.....	.....	1.63	44
.....	.....	.....	.....	.....	.....	.....	.....	5.10	.....	.....	.21	45
37.63	.....	.....	.81	15.15	.....	.....	.12	56.12	.....	5.10	1.37	46
752.69	.....	59.14	41.64	742.42	.....	30.30	27.74	724.49	5.10	5.10	22.47	
145.16	.....	.....	4.73	318.18	.....	.....	10.56	209.18	.....	5.10	5.13	
897.85	.....	59.14	46.37	1,060.61	.....	30.30	38.29	933.67	5.10	10.20	27.60	
558.65	.....	61.45	35.05	1,230.76	.....	76.92	44.79	968.42	10.53	10.53	40.14	
1,681.47	18.69	42.83	.....	1,610.55	12.74	42.77	.....	1,828.01	15.69	36.41	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort McDowell, Ariz.				San Carlos, Ariz.			
	Mean strength, respectively, for years 1888, 1887, and decade.	98.	93.	95.		192.	109.	16.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	.....	.....	.....	.18
2	Other specific contagious and infectious diseases, including erysipelas.	.....	.....	.....	.....	.....	.....	.....	.....
3	Malarial fevers and resulting conditions.	153.06	.....	.....	3.18	213.54	.....	.....	7.73
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	234.69	.....	.....	1.78	182.29	.....	.....	1.84
6	Dysentery	20.41	.....	.....	1.23	177.08	.....	.....	2.76
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	.....	.....	.....	.....	5.21	.....	5.21	.97
9	Syphilis and results	.....	.....	.....	.....	.....	.....	.....	.04
10	Other venereal diseases	30.61	.....	10.20	3.65	5.21	.....	.....	.46
11	Vaccina	.....	.....	.....	.....	.....	.....	.....	.....
12	Other enthetic diseases	10.20	.....	.....	.06	10.42	.....	.....	.38
13	Alcoholism	20.41	.....	.....	.06	.....	.....	.....	.....
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	40.82	.....	.....	.33	67.71	.....	.....	3.00
16	Other constitutional diseases	20.41	.....	.....	.50	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	.....	.....	.....	.....
19	Headache and neuralgia	81.63	.....	.....	1.00	57.29	.....	.....	.92
20	Other diseases of the nervous system.	10.20	.....	.....	.03	15.62	.....	5.21	2.06
21	Diseases of the eye	40.82	.....	.....	.28	31.25	.....	.....	1.04
22	Diseases of the ear	.....	.....	.....	.....	5.21	.....	.....	.11
23	Catarrhs and common colds	10.20	.....	.....	.03	5.21	.....	.....	.06
24	Bronchitis	61.22	.....	.....	.50	104.17	.....	.....	1.91
25	Pneumonia	.....	.....	.....	.....	5.21	.....	.....	.73
26	Pulmonary phthisis	.....	.....	.....	.....	.....	.....	.....	.....
27	Pleuritis	.....	.....	.....	.....	26.04	.....	.....	.47
28	Other diseases of the respiratory system.	.....	.....	.....	.....	.....	5.21	.....	.....
29	Diseases of the heart and valves	.....	.....	.....	.....	10.42	.....	.....	1.65
30	Other diseases of the circulatory system.	10.20	.....	.....	.14	.....	.....	.....	.....
31	Tonsillitis	10.20	.....	.....	.06	78.12	.....	.....	.87
32	Dyspepsia, colic, and constipation	81.63	.....	.....	3.01	98.96	.....	.....	1.86
33	Other diseases of the digestive system.	51.02	.....	.....	1.25	114.58	.....	.....	3.64
34	Diseases of the kidneys	10.20	.....	.....	.45	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	30.61	.....	.....	2.70	20.83	.....	.....	.30
36	Diseases of the locomotor system (excluding muscular rheumatism).	20.41	.....	.....	1.00	10.42	.....	.....	.33
37	Diseases of the integumentary system.	71.43	.....	.....	1.14	57.29	.....	.....	1.08
38	All other diseases	20.41	.....	.....	.33	20.83	.....	.....	.84
39	Heat-stroke	.....	.....	.....	.....	5.21	.....	.....	.48
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	163.27	.....	.....	3.88	46.87	.....	.....	1.86
42	Dislocations	.....	.....	.....	.....	5.21	.....	.....	.53
43	Fractures (not gunshot)	20.41	.....	.....	1.06	15.62	.....	.....	.51
44	Incised, lacerated, contused, and punctured wounds.	71.43	.....	.....	1.84	26.04	.....	.....	.26
45	Shot wounds	.....	10.20	.....	.....	10.42	10.42	.....	.55
46	All other injuries	.....	.....	.....	.....	20.83	5.21	.....	.53
	Total for disease	1,040.82	.....	10.20	22.72	1,322.92	5.21	10.42	35.23
	Total for injuries	255.10	10.20	.....	6.77	130.21	15.62	.....	4.72
	Total for all causes: Year 1888	1,295.92	10.20	10.20	29.50	1,453.12	20.83	10.42	39.96
	Total for all causes: Year 1887	1,290.32	21.50	21.50	36.82	1,330.27	36.70	.....	40.84
	Total for all causes: Decade	1,292.50	7.39	60.19	.....	1,318.75	12.50	.....	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Thomas, Ariz.				Fort Bayard, N. Mex.				Fort Selden, N. Mex.				
106.	154.	134.		316.	301.	178.		25.	43.	31.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
9.43	9.43	.... ..	1.03	.....	.....	.....	.....	.....	....	.....	... ...	1
.....	.....	.....	.....	34.81	.....	.....	.93	40.00	.....	.....	.44	2
150.94	.....	.....	5.10	107.59	3.16	... ...	3.30	.....	.....	.... ..	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
103.77	.....	.....	.52	132.91	.....	.....	1.32	40.00	.....	.....	.55	5
37.74	.....	.....	2.27	6.33	.....	6.33	.80	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
9.43	.....	.....	.08	72.78	.....	.....	2.01	.....	.....	.....	.....	8
18.87	.....	9.43	1.60	41.14	.....	18.99	2.53	.....	.....	.....	.....	9
18.87	.....	.....	1.86	18.99	.....	.....	.69	.....	.....	.....	.....	10
.....	.....	.....	....	3.16	.. ...	.....	.25	.....	.....	.....	.....	11
9.43	.....	.....	1.88	12.66	.....	.....	.61	.....	.....	.....	... ...	12
113.21	.....	.....	.62	18.99	.....	.....	.10	....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
103.77	.....	9.43	8.40	205.70	.....	.....	3.64	80.00	.....	.....	6.89	15
.....	.....	.....	.....	9.49	.....	.....	.31	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	6.33	.....	.....	.02	.....	.....	.....	.....	18
103.77	.....	.....	.95	34.81	.....	.....	.47	40.00	.....	.....	.22	19
9.43	.....	.....	.21	.....	.....	3.16	.....	.....	.....	.....	.....	20
37.74	.....	.....	1.26	22.15	.....	3.16	.92	.....	.....	.....	... ...	21
9.43	.....	.....	.08	9.49	.....	.....	.51	.....	.....	.....	.....	22
.....	.....	.....	.....	79.11	.....	.....	.86	.....	.....	.....	.....	23
56.60	.....	.....	.41	63.29	.....	.....	.65	.....	.....	.....	.....	24
.....	.....	.....	.....	15.82	9.49	.....	.35	.....	.....	.....	.....	25
9.43	.....	.....	1.19	12.66	.....	.....	1.18	40.00	.....	.....	4.26	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	18.99	.....	.....	.33	.....	.....	.....	.....	28
9.43	.....	9.43	.36	12.66	.....	.....	.72	.....	.....	.....	.....	29
.....	.....	.....	.....	3.16	.....	3.16	.86	.....	.....	.....	.....	30
37.74	.....	.....	.26	123.42	.....	.....	1.52	160.00	.....	.....	2.84	31
264.15	.....	.....	5.00	69.62	.....	.....	.64	40.00	.....	.....	.66	32
75.47	.....	.....	2.71	136.08	.....	.....	2.40	120.00	.....	.....	7.21	33
.....	.....	.....	.....	6.33	.....	.....	.08	.....	.....	.....	.....	34
18.87	.....	.....	.34	28.48	.....	3.16	1.36	.....	.....	.....	.....	35
9.43	.....	.....	5.52	6.33	.....	.....	1.27	40.00	.....	.....	1.64	36
18.87	.....	.....	1.98	91.77	.....	.....	2.14	.....	.....	.....	.....	37
75.47	.....	.....	2.47	22.15	.....	.....	.57	.....	.....	.....	.....	38
.....	.....	.....	.....	3.16	.....	.....	.03	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
150.94	.....	.....	5.21	221.52	.....	.....	3.99	80.00	.....	.....	1.97	41
9.43	.....	.....	.31	.....	.....	.....	... ..	.....	.....	.....	.....	42
9.43	.....	.....	1.08	3.16	.....	.....	.17	.....	.....	.....	.....	43
94.34	.....	.....	2.63	69.62	.....	.....	1.55	120.00	.....	.....	2.08	44
9.43	.....	.....	.41	3.16	.....	.....	.16	.....	.....	.....	.....	45
47.17	9.43	9.43	.62	34.81	.....	3.16	.36	.....	.....	.....	.....	46
1,311.32	9.43	28.30	46.09	1,427.22	12.66	37.97	33.33	600.00	.....	.....	24.70	
320.75	9.43	9.43	10.26	335.44	.....	3.16	6.27	200.00	.....	.....	4.04	
1,632.08	18.87	37.74	56.35	1,762.66	12.66	41.14	39.60	800.00	.....	.....	28.74	
1 733.77	12.99	12.99	74.54	870.43	6.64	29.90	27.32	1,976.75	.....	46.51	52.50	
2,420.19	11.22	60.58	.....	1,746.08	20.74	40.92	.....	1,633.12	12.99	55.19	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Fort Grant, Ariz.				Fort Bowie, Ariz.			
	Mean strength, respectively, for years 1888, 1887, and decade.	274.	199.	190.		139.	150.	114.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	.....	.....	.....	.....	.....	.....	.....	.....
2	Other specific contagious and infectious diseases, including erysipelas.	25.55	.....	.....	3.54	7.19	.....	.....	.20
3	Malarial fevers and resulting conditions.	131.39	.....	.....	4.88	7.19	.....	.....	.59
4	Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus.	65.69	.....	.....	1.03	115.11	.....	.....	1.81
6	Dysentery	43.80	7.30	.....	2.64	.....	.....	.....	.....
7	Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....
8	Gonorrhœa and results	47.45	.....	.....	2.84	35.97	.....	.....	3.16
9	Syphilis and results	29.20	.....	3.65	6.34	7.19	.....	.....	.37
10	Other venereal diseases	18.25	.....	.....	3.24	43.17	.....	.....	4.76
11	Vaccina	14.60	.....	.....	.36	.....	.....	.....	.....
12	Other enthetic diseases	3.65	.....	.....	.05	.....	.....	.....	.....
13	Alcoholism	7.30	.....	.....	.09	43.17	.....	.....	.28
14	Other dietic diseases	.....	.....	.....	.....	.....	.....	.....	.....
15	Rheumatism (including muscular)	21.90	.....	.....	1.59	115.11	.....	.....	3.26
16	Other constitutional diseases	.....	.....	.....	.....	.....	.....	.....	.....
17	Developmental diseases	.....	.....	.....	.....	.....	.....	.....	.....
18	Parasitic diseases	.....	.....	.....	.....	7.19	.....	.....	.04
19	Headache and neuralgia	32.85	.....	.....	.54	50.36	.....	7.19	1.65
20	Other diseases of the nervous system.	3.65	.....	.....	.18	.....	.....	.....	.....
21	Diseases of the eye	10.95	.....	.....	1.42	14.39	.....	.....	.14
22	Diseases of the ear	.....	.....	.....	.....	.....	.....	.....	.....
23	Catarrhs and common colds	.....	.....	.....	.....	.....	.....	.....	.....
24	Bronchitis	14.60	.....	.....	.35	64.75	.....	7.19	.55
25	Pneumonia	.....	.....	.....	.....	.....	.....	.....	.....
26	Pulmonary phthisis	3.65	.....	.....	2.01	7.19	.....	.....	.16
27	Pleuritis	7.30	.....	.....	.19	.....	.....	.....	.....
28	Other diseases of the respiratory system.	.....	.....	.....	.....	.....	.....	.....	.....
29	Diseases of the heart and valves	.....	.....	.....	.....	.....	.....	.....	.....
30	Other diseases of the circulatory system.	.....	.....	.....	.....	.....	.....	.....	.....
31	Tonsillitis	14.60	.....	.....	.20	7.19	.....	.....	.02
32	Dyspepsia, colic, and constipation	14.60	.....	.....	15	14.39	.....	.....	.08
33	Other diseases of the digestive system.	69.34	.....	3.65	3.31	64.75	.....	.....	.67
34	Diseases of the kidneys	3.65	.....	.....	.05	.....	.....	.....	.....
35	Other diseases of the genito-urinary system (non-venereal).	7.30	.....	.....	1.22	21.58	.....	.....	.86
36	Diseases of the locomotor system (excluding muscular rheumatism).	3.65	.....	.....	.02	7.19	.....	.....	1.06
37	Diseases of the integumentary system.	7.30	.....	.....	.46	71.94	.....	7.19	2.10
38	All other diseases	3.65	.....	.....	.12	21.58	.....	.....	.10
39	Heat-stroke	.....	.....	.....	.....	.....	.....	.....	.....
40	Frost-bite and general freezing	.....	.....	.....	.....	.....	.....	.....	.....
41	Contusions and sprains	208.03	.....	.....	7.27	79.14	.....	7.19	3.54
42	Dislocations	.....	.....	.....	.....	7.19	.....	.....	.51
43	Fractures (not gunshot)	.....	.....	.....	.....	.....	.....	.....	.....
44	Incised, lacerated, contused, and punctured wounds.	160.58	.....	.....	4.44	28.78	.....	.....	1.81
45	Shot wounds	7.30	3.65	.....	1.03	.....	.....	.....	.....
46	All other injuries	29.20	.....	.....	1.22	43.17	.....	.....	.63
	Total for disease	605.84	7.30	7.30	36.81	726.62	.....	21.58	21.86
	Total for injuries	405.11	3.65	.....	13.95	158.27	.....	7.19	6.49
	Total for all causes Year 1888.	1,010.95	10.95	7.30	50.76	884.89	.....	28.78	28.34
	Total for all causes Year 1887.	1,703.52	20.10	15.08	80.15	966.67	20.00	26.67	33.53
	Total for all causes Decade	1,805.04	13.14	52.03	.....	1,380.58	11.37	22.75	.....

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Fort Lowell, Ariz.				Fort Huachuca, Ariz.				In the field. Southern Group, Cordilleras.				
149.	143.	110.		283.	253.	124.		8.	48.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths	Discharges.	Constantly non-effective.	
6.71	.....	.....	.46	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	.....	.....	.....	14.13	.....	.....	1.25	.....	.....	.....	.....	2
154.36	.....	.....	5.19	63.60	.....	.....	2.25	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
181.21	.....	.....	4.49	49.47	.....	3.53	1.18	.....	.....	.....	.....	5
.....	.....	.....	.....	3.53	.....	.....	.99	.....	.....	.....	.....	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
73.83	.....	.....	5.57	3.53	.....	.....	.48	.....	.....	.....	.....	8
.....	.....	.....	.....	63.60	.....	3.53	6.62	.....	.....	.....	.....	9
107.38	.....	6.71	5.17	7.07	.....	.....	1.15	.....	.....	.....	.....	10
.....	.....	.....	.....	10.60	.....	.....	.16	.....	.....	.....	.....	11
20.13	.....	.....	.07	.....	.....	.....	.....	.....	.....	.....	.....	12
6.71	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
127.52	.....	6.71	3.54	42.40	.....	.....	2.30	.....	.....	.....	.....	15
.....	.....	6.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
80.54	.....	.....	.72	28.27	.....	.....	.30	.....	.....	.....	.....	19
33.56	.....	.....	1.58	14.13	.....	.....	.13	.....	.....	.....	.....	20
20.13	.....	6.71	1.98	10.60	.....	.....	.07	.....	.....	.....	.....	21
13.42	.....	.....	.50	3.53	.....	.....	.05	.....	.....	.....	.....	22
13.42	.....	.....	.22	3.53	.....	.....	.03	.....	.....	.....	.....	23
67.11	.....	.....	1.87	17.67	.....	.....	.36	.....	.....	.....	.....	24
.....	.....	.....	.....	7.07	.....	.....	1.06	.....	.....	.....	.....	25
13.42	.....	13.42	2.29	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
13.42	.....	13.42	2.38	7.07	.....	.....	.02	.....	.....	.....	.....	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
67.11	.....	.....	2.02	53.00	.....	.....	.53	.....	.....	.....	.....	31
107.38	.....	.....	1.38	49.47	.....	.....	.35	.....	.....	.....	.....	32
40.27	6.71	.....	.50	28.27	.....	.....	.34	.....	.....	.....	.....	33
6.71	.....	.....	.37	3.53	.....	.....	.13	.....	.....	.....	.....	34
6.71	.....	6.71	.11	3.53	.....	.....	.06	.....	.....	.....	.....	35
.....	.....	.....	.....	3.53	.....	.....	.31	.....	.....	.....	.....	36
100.67	.....	.....	3.32	56.54	.....	.....	1.12	.....	.....	.....	.....	37
26.85	.....	6.71	.17	.....	.....	.....	.....	.....	.....	.....	.....	38
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
261.74	.....	.....	5.50	120.14	.....	.....	2.47	.....	.....	.....	.....	41
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
.....	.....	.....	.....	14.13	.....	.....	2.54	.....	.....	.....	.....	43
67.11	.....	.....	1.93	45.94	.....	.....	2.19	.....	.....	.....	.....	44
.....	.....	.....	.....	3.53	.....	.....	.40	.....	.....	.....	.....	45
67.11	.....	.....	1.08	17.67	3.53	.....	.29	.....	.....	.....	.....	46
1,288.59	6.71	67.11	43.90	547.70	.....	7.07	21.23	.....	.....	.....	.....	
395.97	.....	.....	8.51	201.41	3.53	.....	7.89	.....	.....	.....	.....	
1,684.56	6.71	67.11	52.41	749.12	3.53	7.07	29.12	.....	.....	.....	.....	
1,762.24	13.98	48.95	62.04	1,339.92	7.90	39.53	51.31	520.83	20.83	.....	18.27	
1,683.64	11.82	45.45	.....	1,995.97	15.30	49.92	.....	.....	.....	.....	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Pacific Coast Region.			
	Mean strength, respectively, for years 1888, 1887, and decade.	1,588.	1,620.	1,355.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever	2.52	.63	.....	.57
2	Other specific contagious and infectious diseases, including erysipelas.	12.59	.63	.....	.50
3	Malarial fevers and resulting conditions	137.28	1.26	.....	6.16
4	Typho-malarial fever	.....	.....	.....	.....
5	Diarrhœa, including cholera morbus	44.71	.....	.....	.55
6	Dysentery	5.04	.....	.....	.04
7	Other miasmatic diseases	.....	.....	.....	.....
8	Gonorrhœa and results	30.86	.....	1.26	1.73
9	Syphilis and results	31.49	.....	10.71	2.69
10	Other venereal diseases	20.15	.....	.63	1.07
11	Vaccina	8.82	.....	.....	.21
12	Other enthetic diseases	.63	.....	.....	.02
13	Alcoholism	60.45	1.26	1.89	.80
14	Other dietic diseases	1.26	.....	.....	.03
15	Rheumatism (including muscular)	90.05	.63	5.04	4.02
16	Other constitutional diseases	1.89	.....	.....	.10
17	Developmental diseases	1.26	.....	1.89	.07
18	Parasitic diseases	1.26	.....	.....	.01
19	Headache and neuralgia	37.78	.....	.63	.95
20	Other diseases of the nervous system	14.48	.63	3.15	.86
21	Diseases of the eye	19.52	.....	2.52	1.03
22	Diseases of the ear	2.52	.....	.63	.06
23	Catarrhs and common colds	11.34	.....	.....	.18
24	Bronchitis	68.61	.....	1.89	2.08
25	Pneumonia	3.15	.....	.63	.43
26	Pulmonary phthisis	6.93	.63	2.52	1.84
27	Pleuritis	2.52	.....	.....	.19
28	Other diseases of the respiratory system	1.89	.....	.63	.16
29	Diseases of the heart and valves	5.67	1.26	4.41	.27
30	Other diseases of the circulatory system	3.78	.....	2.52	.13
31	Tonsillitis	30.86	.....	.....	.45
32	Dyspepsia, colic, and constipation	40.93	.....	.63	.84
33	Other diseases of the digestive system	55.42	1.26	2.52	2.61
34	Diseases of the kidneys	1.26	.....	.....	.06
35	Other diseases of the genito-urinary system (non-venereal).	15.11	.....	2.52	1.29
36	Diseases of the locomotor system (excluding muscular rheumatism).	6.30	.....	1.89	.40
37	Diseases of the integumentary system	93.20	.63	.63	2.17
38	All other diseases	9.45	.....	.....	.63
39	Heat-stroke	1.26	.....	.....	.01
40	Frost-bite and general freezing	.....	.....	.....	.....
41	Contusions and sprains	126.57	.....	.63	4.10
42	Dislocations	1.26	.....	.63	.02
43	Fractures (not gunshot)	5.67	.....	1.26	1.04
44	Incised, lacerated, contused, and punctured wounds.	36.52	.....	.63	1.40
45	Shot wounds	1.89	.....	1.26	.22
46	All other injuries	37.78	2.52	2.52	1.79
	Total for disease	880.35	8.82	49.12	35.19
	Total for injuries	210.96	2.52	6.93	8.58
	Total for all causes: Year 1888	1,091.31	11.34	56.05	43.77
	Total for all causes: Year 1887	861.11	6.17	33.33	33.76
	Total for all causes: Decade	1,230.01	9.74	31.30	.....

therein, the causes and ratios per 1,000 of mean strength, etc.—Continued.

Pacific Coast. Northern Group.				*Fort Townsend, Wash.*				*Vancouver Barracks, Wash.*			
500.	599.	510.		50.	58.	70.		442.	470.	397.	
Admissions.	*Deaths.*	*Discharges.*	*Constantly non effective.*	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non effective.*	*Admissions.*	*Deaths.*	*Discharges.*	*Constantly non effective.*
8.00			.11					6.07			.12
108.00			4.2	76.92			.89	110.11			3.46
76.00			1.25	76.92			.66	77.10			1.34
8.00			.92	38.46			1.78	12.37			.80
8.00			.45					2.17			.46
16.00		2.00	.68	19.23			.21	12.37		2.27	1.08
8.00			.06	19.23			.11	2.20			.02
84.00			.99	96.15			.63	97.34			1.30
4.00			.09					4.54			.14
120.00		4.00	4.13	76.92			1.47	126.72		4.54	4.87
4.00			.27	19.23			1.84	2.27			.06
2.00			.02					2.27			.02
56.00			1.36	96.49			.47	82.18			2.10
12.00	2.00	2.00	1.50	19.23			.66	11.34	2.27	2.27	1.63
28.00			1.56					29.48			1.37
2.00			.08					2.27			.06
2.00			.16					2.27			.18
64.00		2.00	2.20	134.61			1.56	60.70		2.27	2.35
4.00		2.00	.97	19.23		19.23	7.83	2.27			.8
4.00		2.00	1.56	38.46			.37	2.27		2.27	1.70
4.00			.16	19.23			.79	2.27			.09
2.00		2.00	.38					2.27		2.27	.48
4.00	2.00	4.00	.13					4.54		4.54	.54
4.00			.08	19.23			.05	2.27			.8
46.00		2.00	.83	38.46			.50	47.61		2.27	.87
76.00			1.78	76.92			.74	77.10			1.93
22.00		4.00	2.61					24.84		4.54	2.96
6.00			.42					6.80			.46
148.00			2.86	76.92			1.31	158.72			3.09
12.00			1.20	19.23			.63	11.34			1.29
152.00			4.46	134.62			2.36	151.80			4.78
8.00		2.00	1.18					9.47		2.27	1.54
44.00		2.00	1.79	19.23			.96	47.61		2.27	2.02
4.00		2.00	.42					4.54		2.27	.45
34.00			.39	19.23			.11	36.28			.43
996.00	4.00	26.00	31.87	903.85	19.23	19.23	24.54	1,020.41	2.27	27.21	33.18
242.00		6.00	8.25	173.08			2.10	249.43		6.80	9.03
1,238.00	4.00	32.00	40.11	1,076.92	19.23	19.23	27.06	1,269.84	2.27	34.01	42.19
1,013.36	6.68	30.05	36.07	1,056.60		18.87	40.27	1,006.17	3.81	31.91	44.12
1,117.25	8.43	30.59		1,151.00	12.41	30.34		1,115.07	7.41	30.84	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	In the field, Pacific Coast, Northern Group.			
	Mean strength, respectively, for years 1888, 1887, and decade.	7.	10.	—.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever				
2	Other specific contagious and infectious diseases (including erysipelas).				
3	Malarial fevers and resulting conditions	142.86			3.90
4	Typho-malarial fever				
5	Diarrhœa, including cholera morbus				
6	Dysentery				
7	Other miasmatic diseases				
8	Gonorrhœa and results				
9	Syphilis and results				
10	Other venereal diseases				
11	Vaccina				
12	Other enthetic diseases				
13	Alcoholism				
14	Other dietic diseases				
15	Rheumatism (including muscular)				
16	Other constitutional diseases				
17	Developmental diseases				
18	Parasitic diseases				
19	Headache and neuralgia				
20	Other diseases of the nervous system				
21	Diseases of the eye				
22	Diseases of the ear				
23	Catarrhs and common colds				
24	Bronchitis				
25	Pneumonia				
26	Pulmonary phthisis				
27	Pleuritis				
28	Other diseases of the respiratory system				
29	Diseases of the heart and valves				
30	Other diseases of the circulatory system				
31	Tonsillitis				
32	Dyspepsia, colic, and constipation				
33	Other diseases of the digestive system				
34	Diseases of the kidneys				
35	Other diseases of the genito-urinary system (non-venereal).				
36	Diseases of the locomotor system (excluding muscular rheumatism).				
37	Diseases of the integumentary system				
38	All other diseases				
39	Heat-stroke				
40	Frost-bite and general freezing				
41	Contusions and sprains	285.71			2.73
42	Dislocations				
43	Fractures (not gunshot)				
44	Incised, lacerated, contused, and punctured wounds.				
45	Shot wounds				
46	All other injuries				
	Total for disease	142.86			3.90
	Total for injuries	285.71			2.73
	Total for all causes: Year 1888	428.57			6.64
	Total for all causes: Year 1887				
	Total for all causes: Decade				

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Pacific Coast, Southern Group.				Fort Gaston, Cal.				Fort Mason, Cal.				
1,088.	1,021.	845.		41.	36.	41.		46.	42.	44.		
Admissions.	*Deaths.*	*Discharges.*	*Constantly non-effective.*	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
3.68	.92	....	.83	.....	.....	.....	.....	21.74	.....	.....	1.60	1
14.71	.92	.....	.68	.....	.....	.....	.....	.....	.....	.....	.30	2
150.74	1.84	.....	7.52	.....	.....	.....	.....	21.74	.....	.....	.65	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
30.33	.....	.....	.22	.....	.....	.....	.....	.....	.....	.....	.....	5
7.35	.....	.....	.07	.....	.....	.....	.....	21.74	.....	.....	.18	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
36.76	.....	1.84	2.10	48.78	.....	.....	1.73	43.48	.....	.....	3.56	8
42.28	.....	15.62	3.73	.....	.....	.....	.....	21.74	.....	.....	1.90	9
22.06	.....	.....	1.11	.....	.....	.....	.....	.....	.....	.....	.....	10
9.19	.....	.....	.27	24.39	.....	.....	.27	.....	.....	.....	.95	11
.92	.....	.....	.03	.....	.....	.....	.....	.....	.....	.....	.....	12
45.04	1.84	2.76	.71	24.39	.....	.....	.07	130.43	.....	.....	1.25	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
73.53	.92	5.51	3.94	97.56	.....	24.39	5.13	65.22	.....	.....	.48	15
.92	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	16
.92	.....	2.76	.10	.....	.....	.....	.....	.....	.....	.....	.....	17
1.84	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....	18
32.17	.....	.92	.50	73.17	.....	24.39	6.33	.....	.....	.....	.....	19
15.62	.....	3.68	.56	24.39	.....	.....	.20	21.74	.....	21.74	.65	20
16.54	.....	3.68	1.04	24.39	.....	.....	.33	43.48	.....	.....	6.77	21
2.76	.....	.92	.05	.....	.....	.....	.....	.....	.....	.....	.....	22
15.62	.....	.....	.19	48.78	.....	.....	.27	.....	.....	.....	.....	23
56.07	.....	1.84	2.00	.....	.....	.....	.....	108.70	.....	.....	2.85	24
2.76	.....	.....	.18	.....	.....	.....	.....	.....	.....	.....	.....	25
8.27	.92	2.76	2.23	.....	.....	.....	.....	21.74	.....	.....	1.60	26
1.84	.....	.....	.20	.....	.....	.....	.....	.....	.....	.....	.....	27
1.84	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....	28
6.43	.92	4.60	.34	.....	.....	.....	.....	.....	.....	.....	.....	29
5.51	.....	3.68	.18	.....	.....	.....	.....	.....	.....	.....	.....	30
40.44	.....	.....	.62	24.39	.....	.....	.13	21.74	.....	.....	.24	31
38.60	.....	.....	.85	24.39	.....	.....	.13	.....	.....	.....	.....	32
45.96	1.84	3.68	2.99	97.56	.....	24.39	5.53	65.22	.....	.....	2.20	33
1.84	.....	.....	.08	.....	.....	.....	.....	.....	.....	.....	.....	34
11.95	.....	1.84	.69	24.39	.....	24.39	3.53	.....	.....	.....	.....	35
6.43	.....	2.76	.40	24.39	.....	.....	.27	.....	.....	.....	.....	36
68.01	.92	.92	1.85	73.17	.....	.....	.93	86.96	.....	.....	3.21	37
8.27	.....	.....	.37	.....	.....	.....	.....	.....	.....	.....	.....	38
1.84	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
114.89	.....	.92	3.93	48.78	.....	.....	1.93	43.48	.....	.....	1.01	41
1.84	.....	.92	.03	.....	.....	.....	.....	.....	.....	.....	.....	42
4.60	.....	.92	.97	.....	.....	.....	.....	.....	.....	.....	.....	43
33.09	.....	.....	1.22	146.34	.....	.....	4.86	.....	.....	.....	.....	44
.92	.....	.92	.13	.....	.....	.....	.....	.....	.....	.....	.....	45
39.52	3.68	3.68	2.43	24.39	.....	.....	10.93	43.48	.....	.....	.59	46
827.21	11.03	59.74	36.71	634.15	.....	97.56	24.86	695 65	.....	21.74	28.39	
196.69	3.68	7.35	8.74	219.51	.....	.....	17.73	86.96	.....	.....	1.60	
1,023.90	14.71	67.10	45.45	853.66	.....	97.56	42.58	782.61	.....	21.74	30.00	
771.79	5.88	35.26	31.24	1,777.78	.....	27.78	63.70	761.90	47.62	23.81	20.74	
1,298.09	10.54	31.73	.....	1,259.71	9.71	29.13	.....	819.63	2.28	13.70	.....	

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	Alcatraz Island, Cal.				Angel Island, Cal.			
	Mean strength, respectively, for years 1888, 1887, and decade.	94.	91.	152.		140.	142.	126.	
	Causes of admission to sick reports.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								1.69
2	Other specific contagions and infectious diseases, including erysipelas.	10.64			.23	42.86			2.30
3	Malarial fevers and resulting conditions.	53.19			8.14	50.00			20.73
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus	31.91			.12	7.14			.08
6	Dysentery					7.14			.02
7	Other miasmatic diseases								
8	Gonorrhœa and results	10.64			.06	14.29			1.89
9	Syphilis and results	53.19		10.64	1.89	7.14		7.14	.25
10	Other venereal diseases	31.91			1.10	7.14			.55
11	Vaccina	42.55			.61	7.14			.04
12	Other enthetic diseases								
13	Alcoholism	21.28			.20	21.43			.12
14	Other dietic diseases								
15	Rheumatism (including muscular)	85.11			4.91	50.00	7.14	14.29	3.59
16	Other constitutional diseases								
17	Developmental diseases	10.64		10.64	1.10				
18	Parasitic diseases	10.64			.06				
19	Headache and neuralgia	10.64			.03	42.86			.43
20	Other diseases of the nervous system	21.28		10.64	.61				
21	Diseases of the eye	21.28		21.28	2.41			7.14	
22	Diseases of the ear								
23	Catarrhs and common colds	10.64			.03	7.14			.04
24	Bronchitis	42.55			.41	57.14			.53
25	Pneumonia	10.64			.20				
26	Pulmonary phthisis								
27	Pleuritis					7.14			.02
28	Other diseases of the respiratory system.								
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system.					7.14			.04
31	Tonsillitis	95.74			1.98	50.00			.76
32	Dyspepsia, colic, and constipation	63.83			3.11	21.43			.16
33	Other diseases of the digestive system.	10.64			.47	14.29	7.14	7.14	1.23
34	Diseases of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal).					28.57		7.14	1.41
36	Diseases of the locomotor system (excluding muscular rheumatism).	10.64			2.09			7.14	
37	Diseases of the integumentary system.	53.19			1.34	42.86			.62
38	All other diseases					21.43			.47
39	Heat-stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains	63.83			3.98	78.57			3.77
42	Dislocations								
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds.	31.91			1.45				
45	Shot wounds								
46	All other injuries	42.55			5.03	42.86		7.14	.74
	Total for disease	712.77		53.19	31.10	514.29	14.29	50.00	36.36
	Total for injuries	138.30			10.46	121.43		7.14	4.51
	Total for all causes (Year 1888)	851.06		53.19	41.56	635.71	14.29	57.14	40.87
	Total for all causes (Year 1887)	582.42		10.99	19.15	760.56	7.04	56.34	36.58
	Total for all causes (Decade)	1,224.64	3.29	23.71		946.16	8.71	32.46	

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

Presidio of San Francisco, Cal.				Benicia Barracks, Cal.				Benicia Arsenal, Cal.				
439.	404.	226.		70.	63.	123.		55.	54.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
4.56	2.28	.....	.67	.....	.....	.....	.....	.....	.....	.....	.....	1
15.95	2.28	.....	.83	.....	.....	.....	.....	.....	.....	.....	.....	2
104.78	.....	.....	2.58	200.00	.....	.....	16.00	36.36	.....	.....	.30	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
22.78	.....	.....	.22	14.29	.....	.....	.35	36.36	.....	.....	.30	5
.....	.....	.....	.....	28.57	.....	.....	.31	18.18	.....	.....	.15	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
59.23	.....	2.28	3.75	.....	.....	.....	.....	.....	.....	.....	.....	8
68.34	.....	18.22	7.82	.....	.....	.....	.....	.....	.....	.....	.....	9
38.72	.....	.....	2.17	.....	.....	.....	.....	.....	.....	.....	.....	10
6.83	.....	.....	.36	14.29	.....	.....	.20	.....	.....	.....	.....	11
2.28	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....	12
45.56	4.56	2.28	.42	114.29	.....	28.57	6.13	90.91	.....	.....	.75	13
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
61.50	.....	.....	4.52	85.71	.....	28.57	3.20	109.09	.....	.....	.99	15
2.28	.....	.....	.06	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	2.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
2.28	.....	.....	.02	.....	.....	.....	.....	.....	.....	.....	.....	18
29.61	.....	.....	.37	14.29	.....	.....	.12	18.18	.....	.....	.10	19
20.50	.....	2.28	.78	14.29	.....	.....	.90	18.18	.....	.....	.84	20
13.67	.....	2.28	.97	28.57	.....	.....	.66	.....	.....	.....	.....	21
2.28	.....	2.28	.07	.....	.....	.....	.....	.....	.....	.....	.....	22
25.06	.....	.....	.41	14.29	.....	.....	.12	.....	.....	.....	.....	23
75.17	.....	2.28	3.77	.....	.....	.....	.....	109.09	.....	.....	.94	24
.....	.....	.....	.03	14.29	.....	.....	.31	18.18	.....	.....	2.63	2
13.67	.....	6.83	1.62	14.29	.....	.....	11.20	.....	.....	.....	.....	26
.....	.....	.....	.27	.....	.....	.....	.....	18.18	.....	.....	1.74	27
.....	.....	.....	.....	.....	.....	.....	.....	36.36	.....	.....	1.09	2
9.11	.....	6.83	.32	.....	.....	.....	.....	.....	.....	.....	.....	29
6.83	.....	4.56	.36	.....	.....	.....	.....	.....	.....	.....	.....	30
38.72	.....	.....	.49	71.43	.....	.....	1.87	18.18	.....	.....	.05	31
20.50	.....	.....	.85	42.86	.....	.....	.35	109.09	.....	.....	.89	32
45.56	.....	.....	3.02	57.14	.....	14.29	8.78	36.36	.....	.....	.20	33
2.28	.....	.....	.17	.....	.....	.....	.....	18.18	.....	.....	.25	34
9.11	.....	.....	.12	28.57	.....	.....	2.50	.....	.....	.....	.....	35
6.83	.....	4.56	.40	14.29	.....	.....	.59	.....	.....	.....	.....	36
84.28	2.28	2.28	3.04	14.29	.....	.....	.51	145.45	.....	.....	1.89	37
9.11	.....	.....	.65	14.29	.....	.....	.70	.....	.....	.....	.....	38
.....	.....	.....	.....	14.29	.....	.....	.23	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
173.12	.....	2.28	5.61	214.29	.....	.....	8.86	.....	.....	.....	.....	41
4.56	.....	.....	.08	.....	.....	.....	.....	.....	.....	.....	.....	42
11.39	.....	2.28	2.41	.....	.....	.....	.....	.....	.....	.....	.....	43
43.28	.....	.....	1.86	71.43	.....	.....	1.41	18.18	.....	.....	.89	44
2.28	.....	2.28	.31	.....	.....	.....	.....	.....	.....	.....	.....	4
41.00	4.56	6.83	2.95	.....	14.29	.....	.....	.....	.....	.....	.....	4
847.38	11.39	59.23	41.21	800.00	.....	71.43	54.80	836.36	.....	.....	13.11	
275.63	4.56	13.67	13.23	300.00	14.29	.....	10.50	18.18	.....	.....	.89	
1,123.01	15.95	72.89	54.43	1,100.00	14.29	71.43	65.30	854.55	.....	.....	14.01	
700.48	7.43	32.18	32.64	682.54	.....	15.87	36.88	759.26	.....	.....	20.55	
1,616.47	14.61	34.54	.....	969.00	10.60	24.47	.....	(*)	(*)	(*)	(*)	

*Included with Benicia Barracks.

TABLE XIII.—*Showing, for each region and each military station*

	Names of regions and military stations.	San Francisco, Cal.				Los Angeles, Cal.			
	Mean strength, respectively, for years 1888, 1887, and decade.	38.	43.	—.		27.	28.	—.	
	Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1	Enteric fever								
2	Other specific contagious and infectious diseases, including erysipelas.	26.32			.14				
3	Malarial fevers and resulting conditions.								
4	Typho-malarial fever								
5	Diarrhœa, including cholera morbus.								
6	Dysentery								
7	Other miasmatic diseases								
8	Gonorrhœa and results								
9	Syphilis and results								
10	Other venereal diseases								
11	Vaccina								
12	Other enthetic diseases								
13	Alcoholism								
14	Other dietic diseases								
15	Rheumatism (including muscular)	52.63			.72				
16	Other constitutional diseases								
17	Developmental diseases								
18	Parasitic diseases								
19	Headache and neuralgia								
20	Other diseases of the nervous system.								
21	Diseases of the eye								
22	Diseases of the ear								
23	Catarrhs and common colds								
24	Bronchitis								
25	Pneumonia								
26	Pulmonary phthisis								
27	Pleuritis								
28	Other diseases of the respiratory system.								
29	Diseases of the heart and valves								
30	Other diseases of the circulatory system.	26.32			.14				
31	Tonsillitis								
32	Dyspepsia, colic, and constipation								
33	Other diseases of the digestive system.	131.58	26.32		5.18	37.04			1.62
34	Disease of the kidneys								
35	Other diseases of the genito-urinary system (non-venereal).								
36	Diseases of the locomotor system (excluding muscular rheumatism)								
37	Diseases of the integumentary system.								
38	All other diseases								
39	Heat-stroke								
40	Frost-bite and general freezing								
41	Contusions and sprains								
42	Dislocations								
43	Fractures (not gunshot)								
44	Incised, lacerated, contused, and punctured wounds.								
45	Shot wounds								
46	All other injuries	26.32			.58				
	Total for disease	236.84	26.32		6.18	37.04			1.62
	Total for injuries	26.32			.58				
	Total for all causes: Year 1888	263.16	26.32		6.76	37.04			1.62
	Total for all causes: Year 1887	46.51			1.40	178.57			8.12
	Total for all causes: Decade								

therein, the causes and ratios per 1,000 *of mean strength, etc.*—Continued.

San Diego Barracks, Cal.				In the field, Pacific Coast, Southern Group.				Army and Navy General Hospital, Hot Springs, Ark.				
53.	51.	42.		85.	67.	—.		29.	21.	—.		
Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	
.....	.....	.....	4.33	11.76	.....	.....	1.74	.....	.....	.....	.....	1
.....	.....	.....	.....	11.76	.....	.....	.19	.....	.....	.....	.....	2
150.94	.....	.....	2.47	952.94	23.53	.....	24.53	.....	.....	.....	.....	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
132.08	.....	.....	.67	105.88	.....	.....	.51	.....	.....	34.48	32.60	5
.....	.....	.....	.....	35.29	.....	.....	.35	34.48	.....	.....	57.00	6
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
18.87	.....	.....	.62	70.59	.....	11.76	1.19	.....	.....	.....	.....	8
37.74	.....	.....	1.96	82.35	.....	82.35	2.60	.....	.....	.....	.....	9
.....	.....	.....	.....	35.29	.....	.....	.90	.....	.....	.....	2.54	10
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12
56.60	.....	.....	.36	11.76	.....	.....	.06	.....	.....	.....	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	34.48	.....	.....	8.67	14
150.94	.....	.....	7.47	105.88	.....	11.76	4.73	103.45	.....	172.41	626.06	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	11.76	.....	.....	.....	.....	.....	17
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
.....	.....	.....	.....	117.65	.....	.....	.51	.....	.....	.....	2.26	19
.....	.....	.....	.....	23.53	.....	11.76	.68	.....	.....	68.97	65.48	20
.....	.....	.....	.....	58.82	.....	.....	1.25	.....	.....	.....	.....	21
.....	.....	.....	.....	23.53	.....	.....	.19	.....	.....	.....	.....	22
.....	.....	.....	.....	11.76	.....	.....	.03	.....	.....	.....	.....	23
37.74	.....	18.87	1.13	35.29	.....	.....	2.03	.....	.....	.....	10.74	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.75	25
18.87	18.87	.....	16.08	.....	.....	.....	.....	.....	.....	.....	.....	26
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28
18.87	.....	18.87	2.94	23.53	11.76	11.76	.80	.....	.....	.....	.....	29
.....	.....	.....	.....	11.76	.....	23.53	.35	.....	.....	.....	.....	30
56.60	.....	.....	.31	.....	.....	.....	.....	.....	.....	.....	1.41	31
169.81	.....	.....	2.37	58.82	.....	.....	.45	.....	.....	.....	.....	32
113.21	.....	.....	9.18	23.53	.....	11.76	.39	34.48	.....	.....	10.93	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.04	34
18.87	.....	.....	.88	11.76	.....	.....	1.61	.....	.....	.....	.....	35
.....	.....	.....	.....	11.76	.....	.....	.06	34.48	.....	34.48	4.05	36
18.87	.....	.....	.05	105.88	.....	.....	1.64	34.48	.....	34.48	57.00	37
.....	.....	.....	.....	11.76	.....	.....	.03	.....	.....	.....	29.58	38
.....	.....	.....	.....	11.76	.....	.....	.06	.....	.....	.....	.....	39
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
56.60	.....	.....	.67	117.65	.....	.....	1.54	.....	.....	.....	.....	41
.....	.....	.....	.....	.....	.....	11.76	.....	.....	.....	.....	.....	42
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
18.87	.....	.....	.52	11.76	.....	.....	.03	.....	.....	.....	.....	44
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
150.94	18.87	.....	1.86	35.29	.....	.....	2.12	.....	.....	.....	.....	46
1,000.00	18.87	37.74	50.83	1,952.94	35.29	176.47	46.83	275.86	.....	344.83	910.12	
226.42	18.87	.....	3.04	176.47	.....	11.76	3.76	.....	.....	.....	.....	
1,226.42	37.74	37.74	53.87	2,129.41	35.29	188.24	50.59	275.86	.....	344.83	910.12	
1,333.33	.....	58.82	54.31	1,328.56	.....	119.40	31.65	571.43	95.24	333.33	836.01	
1,767.39	35.97	98.32	.....	.....	.....	.....	.....	.....	.....	.....	.....	

TABLE XIV.—*Showing the causes and ratios of rejection among* 21,401

Causes of rejection.	White.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.
Malarial diseases	2		2	.1
Enthetic diseases	500	2	502	25.8
Dietic diseases	335		335	17.2
Constitutional diseases	27		27	1.4
Developmental defects	851		851	43.8
Parasitic diseases	37		37	1.9
Diseases of the nervous system	16	3	19	1.0
Diseases of the eye	1,748	2	1,750	90.0
Diseases of the ear	173	1	174	9.0
Diseases of the nose	25		25	1.2
Diseases of the respiratory system	27		27	1.4
Diseases of the circulatory system	679	3	682	35.1
Diseases of the digestive system	955	5	960	49.4
Diseases of the lymphatic system	58		58	3.0
Diseases of the urinary system	2		2	.1
Diseases of the reproductive system	692	4	696	35.8
Diseases and injuries of the locomotor system	731	2	733	37.7
Diseases of the integumentary system	184	3	187	9.6
Results of injuries	141		142	7.2
General unfitness	874		874	45.0
Over age	61		61	3.1
Under age	534		534	27.5
Over height	29		29	1.5
Under height	410		410	21.1
Over weight	50		50	2.6
Under weight	785		785	40.4
Imperfect knowledge of English	159		159	8.2
Doubtful character	69		69	3.6
Previously discharged for disability	6		6	.3
Deserter from U. S. Army	1		1	.1
Deserter from other army	1		1	.1
Unclassified	319		319	16.4
Aggregate	10,481	25	10,506	540.6

recruits examined during the year 1888 (*white*, 19,432; *colored*, 1,969).

Colored.				White and colored.			
Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.
.....	.....	.....	.....	2	.....	2	.1
101	.....	101	51.2	601	2	603	28.0
3	.....	3	1.5	338	.....	338	15.8
6	.....	6	3.0	33	.....	33	1.6
136	.....	136	69.0	987	.....	987	46.1
6	.....	6	3.0	43	.....	43	2.0
3	.....	3	1.5	19	3	22	1.0
151	.....	151	76.6	1,899	2	1,901	88.8
7	.....	7	3.6	180	1	181	8.4
1	.....	1	.5	26	.....	26	1.2
1	.....	1	.5	28	.....	28	1.3
21	1	22	11.1	700	4	704	32.7
105	1	106	53.8	1,060	6	1,066	49.8
12	.....	12	6.0	70	.....	70	3.2
.....	.....	.....	.....	2	.....	2	.1
49	.....	49	25.0	741	4	745	34.8
88	.....	88	45.0	819	2	821	38.3
28	.....	28	14.2	212	3	215	10.0
17	.....	17	8.6	158	.....	158	7.3
76	.....	76	38.6	950	.....	950	44.4
9	.....	9	5.0	70	.....	70	3.2
86	.....	86	44.0	620	.....	620	29.0
14	.....	14	7.1	43	.....	43	2.0
77	.....	77	39.1	487	.....	487	22.7
14	.....	14	7.1	64	.....	64	3.0
82	.....	82	41.6	867	.....	867	40.5
.....	.....	.....	.....	159	.....	159	7.4
24	.....	24	12.1	93	.....	93	4.3
1	.....	1	.1	7	.....	7	.3
.....	.....	.....	.....	1	.....	1	.5
.....	.....	.....	.....	1	.....	1	.5
39	.....	39	19.8	358	.....	358	16.7
1,157	2	1,159	588.6	11,638	27	11,665	545.0

REPORT

OF THE

SURGEON-GENERAL OF THE ARMY

TO THE

SECRETARY OF WAR

FOR THE

FISCAL YEAR ENDING JUNE 30, 1891.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1891.

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REPORT

OF

THE SURGEON-GENERAL.

SURGEON-GENERAL'S OFFICE,
Washington, D. C., September 22, 1891.

SIR: I have the honor to submit herewith a statement of disbursements made during the fiscal year ended June 30, 1891, from the appropriation made by act of Congress, approved June 30, 1890, for the expenses of the Medical Department of the Army, and the balance on hand at the close of said fiscal year, viz:

Medical and Hospital Department, 1891:		
Appropriation by act approved June 13, 1890		$215,000.00
Refunded during the year		1,036.29
Total to be accounted for		216,036.29
Disbursed during the year:		
For medical and hospital supplies	$65,141.33	
Expenses of purveying depots	124.17	
For pay of employés	42,637.61	
Medical attendance and medicines	11,084.01	
Advertising	136.80	
Miscellaneous expenses	953.53	
		120,077.45
Balance on hand June 30, 1891		95,958.84

Nearly all the balance remaining on hand at the close of the fiscal year has already been or will be expended in payment for supplies contracted for, and for other obligations incurred prior to July 1, 1891.

The approximate money value of the medical and hospital supplies actually issued during the fiscal year ended June 30, 1891, was $172,000.

I have the honor to submit also a statement showing the expenditures during the last fiscal year from the appropriations for the Medical Department for prior fiscal years, and the balance on hand June 30, 1891, viz:

Medical and hospital department, 1890:		
Balance on hand July 1, 1890		$82,077.79
Refunded during the year		5,988.50
Total to be accounted for		88,066.29
Disbursed during the year:		
For medical and hospital supplies	$67,745.70	
Pay of employés	100.00	
Medical attendance and medicines	2,075.28	
Miscellaneous expenses	300.96	
		70,221.94
Balance on hand June 30, 1891		17,844.35

Medical and hospital department, 1889:		
Balance on hand July 1, 1890		$11,394.56
Disbursed during the year	$3,560.00	
Carried to surplus fund June 30, 1891	7,834.56	
		11,394.56
Medical and hospital department, 1888 and prior years:		
Certified claims:		
Reappropriated by acts approved September 30, 1890, and March 3, 1891		794.16
Disbursed during the year		794.16
Library of the Surgeon General's Office, 1890:		
Balance from previous fiscal year		571.16
Disbursed during the year		571.16
Library of the Surgeon General's Office, 1891:		
Appropriated by act of June 13, 1890		10,000.00
Disbursed during the year		8,458 92
Balance, June 30, 1891		1,541.08
Army Medical Museum, 1890:		
Balance from previous fiscal year		1,082.54
Disbursed during the year		1,082.41
Balance, June 30, 1891		.13
Army Medical Museum, 1891:		
Appropriated by act of June 13, 1890		5,000.00
Disbursed during the year		4,145.17
Balance, June 30, 1891		854.83
Medical and surgical history:		
Balance from previous fiscal year		2,711.94
Carried to the surplus fund		2,711.94
Building for Army Medical Museum:		
Balance from previous fiscal year		1,184.05
Balance June 30, 1891		1,184.05

An aggregate reduction of about $100,000 will be made in the estimates of appropriations for the next fiscal year for the entire expenses of the Medical Department. This reduction is based on the probable requirements of the service, taking into consideration the abandonment of twelve posts during the past year.

The Examining Board of Medical Officers convened in New York City in March was also assigned the duty of examining and improving the means of transportation of the sick and wounded of the Army, the equipment of the Hospital Corps, and the revision of the Standard Supply Table, the last edition of which was issued in 1883. Good progress has been made in this last important work, which will be ready for publication in the autumn.

The first ice machine was purchased by the Department in 1886, and was in operation late in the autumn of that year. Others have been issued since, and at the present time eighteen posts on our southern border and in the Indian Territory have them. At first there was some difficulty in securing proper local management and care of the apparatus, but at the present time they are generally well managed and in a satisfactory condition. Several requests have been made during the past year for the erection of these machines, but were disapproved because in each case it was ascertained that ice could be procured in the vicinity by purchase.

Artificial limbs, trusses, appliances, etc.

Artificial limbs, 1888 and prior years:		
Transfer account under act of March 3, 1875		$15.33
Disbursed during the year		15.33
Artificial limbs, 1888:		
Balance from previous fiscal year		4,479.42
Carried to the surplus fund		4,479.42
Artificial limbs, 1889:		
Balance from previous fiscal year		8,875.17
Disbursed during the fiscal year	$169.01	
Carried to the surplus fund	4,545.29	
		4,714.30
Balance, June 3, 1891		4,160.87
Artificial limbs, 1890:		
Balance from previous fiscal year		3,635.49
Disbursed during the year		2,218.93
Balance, June 30, 1891		1,416.56
Artificial limbs, 1891:		
Appropriated by act of August 30, 1890	$400,000.00	
Appopriated by act of March 3, 1891	125,000.00	
		525,000.00
Disbursed during the year		508,567.88
Balance, June 30, 1891		16,432.12
Appliances for disabled soldiers, 1889:		
Balance from previous fiscal year		604.95
Carried to the surplus fund		604.95
Appliances for disabled soldiers, 1890:		
Balance for previous fiscal year		696.44
Disbursed during the year		173.63
Balance, June 30, 1891		522.81
Appliances for disabled soldiers, 1891:		
Appropriated by act of August 30, 1890		2,000.00
Disbursed during the year		1,870.49
Balance, June 30, 1891		129.51
Expended in furnishing trusses to disabled soldiers under the Revised Statutes, sections 1176 to 1178, and act of March 3, 1879		13,031.95
Support and medical treatment of destitute patients in the city of Washington:		
Appropriated by act of August 30, 1890		19,000.00
Disbursed during the year		19,000.00

There were furnished to disabled soldiers, seamen, and marines during the year ending June 30, 1891:

Trusses	1,848
Special appliances	196
Artificial arms, in kind	18
Artificial legs, in kind	513
Commutation in place of artificial limbs or apparatus	7,790

Sections 4787–4789, Revised Statutes, provide for the issue of an artificial limb or the payment of its commuted value once every five years to those who have lost a limb or the use of a limb in the service of their

country. An amendment to these statutes was approved March 3, 1891, making the period for the renewal of the limb three years instead of five; but although this amendment necessarily added two-fifths to the usual expenditure for artificial limbs, Congress made no appropriation to meet the additional expense. A careful examination of the lists of those living and entitled to limbs or their commuted value, shows that in addition to the claims paid out of the appropriation for the year ending June 30, 1892, now exhausted, there will be matured before the date mentioned—

4,518 cases, at $50 each	$225,900
210 cases, at $75 each	15,750
Total	241,650

This will necessarily constitute a deficiency for the year ending June 30, 1892.

ARMY MEDICAL MUSEUM.

The total number of specimens received during the fiscal year was 964; total number of specimens in the Museum June 30, 1891, 30,241. The following statement shows the details of additions, transfers, etc., in the different sections:

Pathological section:	
In museum June 30, 1890	9,986
Received during the year	154
In museum June 30, 1891	10,140
Anatomical section:	
In museum June 30, 1890	3,296
Exchanged during the year	8
	3,288
Received during the year	27
In museum June 30, 1891	3,315
Section of comparative anatomy:	
In museum June 30, 1890	1,717
Received during the year	0
In museum June 30, 1891	1,717
Microscopical section:	
In museum June 30, 1890	11,366
Received during the year	504
In museum June 30, 1891	11,870
Miscellaneous section:	
In museum June 30, 1890	1,227
Received during the year	105
In museum June 30, 1891	1,332
Provisional pathological section:	
In museum June 30, 1890	1,050
Transferred from provisional anatomical section	1
Received during the year	110
In museum June 30, 1891	1,161

Provisional anatomical section:	
In museum June 30, 1890	643
Transferred to provisional pathological section	1
	642
Received during the year	64
In museum June 30, 1891	706

RECAPITULATION.

Total number of specimens in museum June 30, 1890	29,285
Exchanged during the year	8
	29,277
Total number received during the year	964
Total number in museum June 30, 1891	30,241

The following are some of the more interesting specimens added to the museum collection during the fiscal year ending June 30, 1891:

(1) Right tibia and fibula showing syphilitic inflammation. Presented by Surg. W. H. Forwood, U. S. Army.
(2) Portion of frontal bone from a colored boy, aged 15, showing circular depressed fracture by a stone. Presented by Dr. R. H. Munson, Washington, D. C.
(3) Lower two-thirds of left femur, fractured in middle third, from a soldier wounded at Antietam, Md., September 17, 1862; amputated April 26, 1888. Presented by Mr. A. H. Gibbs, Washington, D. C.
(4) Integuments of abdominal wall, heart, and pericardium, lungs, portion of liver, and kidneys, from a case of general cancer in a white woman, aged 34. Presented by Dr. T. C. Smith, Washington, D. C.
(5) Lower end of ileum, cæcum, part of colon and vermiform appendix, from a case of peritonitis in a white boy aged 15. Presented by Dr. H. D. Fry, Washington, D. C.
(6) Specimen of congenital absence of anus in an infant. Presented by Assistant Surg. T. W. Raymond, U. S. Army.
(7) Right femur from a case of rickets in a child, aged 47 months. Presented by Dr. Mary A. Parsons, Washington, D. C.
(8) Section of femur showing healed shot fracture, from a soldier wounded at Chancellorsville, Va., May 3, 1863; died January 23, 1891, from absorption of pus from wound. Presented by Dr. George P. Ikirt, East Liverpool, Ohio.
(9) Two transverse sections of an osteo-sarcoma of left thigh; presented by Dr. C. G. Stone, Brightwood, D. C., and plaster cast, colored after nature, of thigh and upper part of leg, showing full size of osteo-sarcoma.
(10) A series of uterine and ovarian tumors, removed by operation. Presented by Dr. J. Taber Johnson, Washington, D. C.
(11) Palmar half of right forearm and hand, showing elephantiasis: from a colored man aged 36. Presented by Acting Assistant Surg. D. S. Lamb, U. S. Army.
(12) Bullet containing piece of molar tooth, from a Confederate soldier wounded at Petersburg, Va., March 31, 1865. Presented by Dr. R. Fraser Michel, Montgomery, Ala.
(13) A series of specimens of tumors of uterus and ovary. Presented by Drs. G. C. Freeborn, J. S. Ely, and W. P. Northrup, through Dr. T. M. Prudden, New York.
(14) Portion of spleen with portion of omentum adherent, showing cancer nodules, from a white man aged 44. Presented by Medical Inspector Henry M. Wells, U. S. Navy.
(15) Two hypertrophied mammary glands, combined weight 45 pounds. Presented by Dr. C. B. Porter, Boston, Mass.
(16) A series of twenty models of female pelves, showing deformities. Purchased.
(17) A series of twenty-five wax models, showing different diseases of the eyes and eyelids. Purchased.
(18) Thirty-six wax composition casts of various parts of the body showing diseases of the skin, cancerous and syphilitic diseases, lupus, etc. Purchased.
(19) Plaster cast of the brain of the blind deaf mute, Laura Bridgman. Presented by Prof. G. Stanley Hall, Clark University, Worcester, Mass.
(20) A series of six models, life size, of uteri, showing pregnancy, respectively, at 1, 2, 3, 4, 8, and 9 months. Purchased.

(21) Tongue, fauces, larynx, etc., of a horse, showing cancer. Presented by Veterinary Surg. C. B. Robinson, Washington, D. C.
(22) Operating table made for Francois Magendie in 1831, and used by Claude Bernard. Presented by Dr. Austin Flint, New York.
(23) Seventy medals relating to medicine and medical men, medical schools, vaccination, etc.

LIBRARY.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30, 1890.	Added during fiscal year.	Total June 30. 1891.
Medical journals	29,017	1,031	30,048
Medical transactions	4,156	149	4,305
Bound theses	1,574		1,574
Bound pamphlets	1,925	114	2,039
Other medical books	61,214	2,789	64,003
Total	97,886	4,083	101,969
Medical theses	48,724	2,077	50,801
Medical pamphlets	96,203	8,317	104,520
Total	144,927	10,394	155,321

Of the total number of single pamphlets on hand there were bound during the year 3,096 in 44 volumes.

There were presented to the library during the year 529 books and 6,466 pamphlets and journals; also, 5 portraits.

Volume XII of the Index Catalogue, including from "Reger" to "Shuttleworth," forming a volume of 1,004 pages, has been printed, and the edition will be distributed as soon as bound to those institutions and persons who have received the previous volumes. The preparation of the manuscript of Volume XIII is already well advanced.

PROVIDENCE HOSPITAL.

Under the provisions of the act of August 30, 1890, making appropriation of $19,000 "for the support and medical treatment of 95 medical and surgical patients who are destitute in the city of Washington, under a contract to be made with the Providence Hospital by the Surgeon-General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation:

Number of patients in hospital July 1, 1890	98
Number of patients admitted during the year	934
Total number of patients treated	1,032
Average number of patients admitted per month	78
Number remaining in hospital June 30, 1891	95
Total number of days' treatment afforded	35,782
Average number of days' treatment per patient	34½
Average number of patients treated per day	98
Longest term of treatment ..... days	365
Shortest term of treatment ..... day	1
Number of patients in hospital during the whole year	23

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients

shown as having remained in hospital during the whole year are incurable, without home or friends.

ARMY AND NAVY GENERAL HOSPITAL, HOT SPRINGS, ARK.

At the beginning of the year, July 1, 1890, the number of patients in hospital was		39
Admitted during the year		123
Total		162
Returned to duty	69	
Left hospital on sick leave and for station or residence	15	
Discharged on expiration of service	3	
Discharged on surgeon's certificate of disability	34	
Died	5	
Transferred to other hospitals	2	
		128
Remaining		34

The results of the special treatment at this hospital by baths, etc., continue to be very satisfactory, particularly in the various forms of rheumatism. Of the total number of cases admitted, 60 per cent were rheumatic diseases, and 62 per cent of these were returned to duty.

Diseases of the nervous system constituted 17 per cent of the admissions; one half of them were returned to duty—a very favorable result when it is considered that seven were cases of locomotor ataxia or tabes, frequently thought to be incurable; several cases of neurasthenia or nervous depression, brought on by the great strain of our modern life with its increased mental activities, were also treated successfully.

A small percentage of diseases of the digestive and respiratory systems was admitted; the results in these were also satisfactory.

Of the total number admitted, 56 per cent were returned to duty, and this rate would be larger if allowance were made for patients who left the hospital on sick leave benefited by treatment and able in a short time thereafter to return to duty.

In most of the cases returned to their stations their future term of duty, whatever it may be, is so much gained by their treatment here. Necessarily, in a certain proportion, there is a return of the disease. Patients who leave the hospital to all appearance sound, may retain their rheumatic diathesis, ready to be roused into activity by exposure to cold or wet, or imprudence in diet. It would be interesting to trace the future history of these cases, which could be properly done only by following them up after they leave the Army, as most of them will do in a few years. There were four readmissions this year of enlisted men, all for rheumatism and neuralgia.

The steam heating introduced in the Administration building and North ward in the latter part of March, 1890, has been in regular use through last winter, and has contributed much to the comfort of the patients. The only means of heating the rooms before that was by open grates, and as there was no way of heating the halls and passages they were always cold in severe weather and a constant danger to invalids. In winter the temperature is frequently down to freezing and occasionally to zero. The buildings of the hospital seem to have been constructed for a Florida climate, and it has required much care and several alterations to meet these severe weather changes. By next winter the steam heating will be extended to all the other buildings.

A covered passage has been constructed, 165 feet long by 10 feet

wide, connecting the main building with the bath house; this enables patients to pass to and from their baths without exposure to the weather. It is a frame building, ornamental in appearance, and harmonizing with the other structures. Nearly all the rooms in the building have been papered or calcimined this year and the wards painted inside.

The work on the hospital grounds has been suspended this year for lack of appropriation, except so much as was necessary to protect the work already done. The boundary wall along the street front requires an extension of 180 feet to complete it; and also coping and iron railing similar to the work already finished along the front. There are also some sidewalk concreting and brick gutters required to complete the work on the plan originally laid down, and necessary to protect the surface already finished from damage by heavy rains. Estimates for these purposes have been already forwarded.

The large reservoir, capacity 250,000 gallons, mentioned in the report of last year, has been constructed on the reservation by the Interior Department; it receives all the hot water issuing from springs below the level of the bath houses and which formerly ran to waste.

The total flow of the hot springs has been estimated lately by an engineer officer of the U. S. Navy at 1,250,000 gallons a day. The number of bath tubs supplied in the various bath houses is 409, not including this hospital, and there is also a free Government bath house in charge of the Interior Department, with three large bathing tanks, in which about 500 baths are given daily. It was intended that all the bath houses should be supplied by the pump from this reservoir, but as it is found that they get a sufficient supply for the summer season by natural flow from springs above their level, the pump is not in operation and may not be required even next winter.

It was expected that the hospital would be authorized to draw its water supply from this source and save the expense of pumping, but it seems now as if it would have to continue drawing from its own spring and operating its own pump. The access to the springs is by a dark and inconvenient passage, under a bath house, as stated in the report of last year. Representation has been made to the War and Interior Departments, and it is hoped the matter will be remedied.

HOSPITAL CORPS.

Under the Army Regulations governing the allotment of Hospital Corps members, the number demanded by the distribution of troops of the line, the arsenals, engineer stations, West Point, recruiting depots, and other independent commands, is as follows:

Hospital stewards	145
Acting hospital stewards	100
Privates	560

There are now in service:

Hospital stewards	124
Acting hospital stewards	71
Privates	530

Vacancies exist for:

Hospital stewards	21
Acting hospital stewards	29
Privates	0
Civilians	10

Five hospital stewards were tried by general court-martial for various offenses, 1 being sentenced to dishonorable discharge from the Army.

One acting hospital steward was tried for a minor offense. Twenty-one privates were tried, of whom 1 was acquitted, 14 received minor sentences, and 6 were dishonorably discharged.

The number of members of the corps who were discharged by expiration of service and did not reënlist was 105, or 62.87 per cent of those discharged.

The number of desertions from the corps amounted to 10 during the year, or 1.3 per cent of the force.

The percentage attained by the candidates examined for promotion was as follows:

For hospital steward:	
95 to 97 per cent	5
90 to 95 per cent	6
85 to 90 per cent	9
80 to 85 per cent	4
75 to 80 per cent	5
70 to 75 per cent	5
For acting hospital steward:	
95 to 98 per cent	7
90 to 95 per cent	11
85 to 90 per cent	11
80 to 85 per cent	6
75 to 80 per cent	2
Below 75 per cent	none

Table showing loss and gain to the Hospital Corps for the year ending June 30, 1891.

	Hospital stewards.	Acting hospital stewards.	Privates.	Matrons.
GAIN.				
In service July 1, 1890	137	62	562	160
Reënlisted	22	4	39	.....
Promoted after examination	20	.....	.....	.....
Rejoined from desertion	.....	.....	4	.....
Detailed from privates of Hospital Corps	.....	38	.....	.....
Transferred from the line	.....	.....	210	.....
Enlisted	.....	.....	8	.....
Reënlisted from other corps	.....	.....	13	.....
Reduced from acting hospital stewards	.....	.....	3	.....
Appointed	.....	.....	.....	104
Total to be accounted for	179	104	839	264
Total gain	42	42	277	104
LOSS.				
Discharges:				
Expiration of service	27	9	131	.....
For disability	2	.....	10	.....
By sentence of general court-martial	1	.....	6	.....
By order	10	2	100	120
Promoted	.....	19	39	.....
Retired	12	.....	4	.....
Died	2	.....	5	.....
Reduced to private	.....	3	.....	.....
Transferred to the line of the Army	.....	.....	4	.....
Deserted	1	.....	9	.....
Dropped	.....	.....	1	.....
Total loss	55	33	309	120
In service June 30, 1891	124	71	530	144

Record of examinations in Hospital Corps for year ending June 30, 1891.

	Hospital stewards.	Acting hospital stewards.		Hospital stewards.	Acting hospital stewards.
Number of applications	44	48	Examination authorized	42	45
Withdrawn		2	Declined examination	2	3
Deserted	1		Died		1
Not entitled to examination		1	Failed	7	4
To be examined in next class	1		Found qualified	33	37
Examination authorized	42	45		42	45
	44	48			

CIVILIANS.

Applications received	20
Failed to accept conditions	20

Members of the Hospital Corps on duty in Sioux campaign.

Hospital stewards	10
Acting hospital stewards	16
Privates	80
At division field hospital:	
Hospital stewards	1
Acting hospital stewards	2
Privates	12
Casualties:	
Hospital steward killed	1

The services of the Hospital Corps during the Sioux campaign have demonstrated its value as an organization for the care of the wounded. On the battle-field at the action on Wounded Knee Creek two of its members rescued a wounded officer from extreme peril under circumstances which fully entitled them to the certificate of merit which they received as their reward, while the services that the remainder rendered were so orderly and well regulated that not only our own wounded men but wounded Indians were, with great promptness and dispatch, removed and cared for in the field hospitals which were extemporized for their benefit.

To increase its efficiency the Major-General Commanding approved my recommendation for the establishment of companies of instruction for the Hospital Corps at military posts west of the Mississippi, and for this purpose they are now in process of organization at Forts Riley, D. A. Russell, and Keogh. Each company will be fully supplied with the necessary field equipment, including tentage, field hospital furniture, etc., and the men will receive daily instruction by object lessons in first aid to the wounded, in the management of field hospitals, in cookery, and in such military duties as are necessary to secure the highest state of efficiency for field service.

To further increase its efficiency it appears to me needful to offer inducements to desirable men to enter its ranks. Under the old system of details for hospital duty the hospital attendant received $23.50 per month; as a member of the Hospital Corps he gets only $13. Hence, men who would like to enter the corps will not do so because they can do better financially by remaining with a company and becoming corporals and sergeants; and many desirable men leave the corps on the expiration of their term of service,—of 131 men discharged by expiration of term during the year, 105 did not reënlist. The Medical Department is thus in the position of teaching special duties to men who do not stay with it after they are taught. I therefore urgently

recommend that $6 be added to the pay of the private of the Hospital Corps, and trust that favorable action will be taken on the recommendation.

MEDICAL OFFICERS.

The requirements of the Army as regards medical officers during the past year have been as follows:

Number of permanent posts and stations	122
Number of temporary posts and substations	28
Total	150

There were 143 medical officers reported to this office as having been on duty with scouting parties and other field service during the year.

Army medical examining boards were convened in New York City on the 15th day of October, 1890, and the 16th day of March, 1891, and remained in session one month each, for the examination of candidates. The following is a recapitulation of the work performed by the boards during their sessions:

Number of candidates invited to appear for examination	50
Number of candidates found qualified	5
Number of candidates rejected	19
Number of candidates rejected for physical disability	12
Number of candidates who withdrew after partial examination	8
Total number examined	44
Number of candidates who refused examination	1
Number of candidates who failed to appear for examination	5
	50

Deaths.—Since the date of last report, 1 surgeon-general with the rank of brigadier-general, 1 surgeon with the rank of major, 1 assistant surgeon with the rank of captain, 1 colonel, retired, 1 captain, retired.

Retirements.—One surgeon-general with the rank of brigadier-general, 1 assistant medical purveyor with the rank of lieutenant colonel, 1 surgeon with the rank of lieutenant-colonel, 2 surgeons with the rank of major, 4 assistant surgeons with the rank of captain, 2 medical storekeepers with the rank of captain, 1 captain and assistant surgeon with the rank of major, 1 captain and assistant surgeon wholly retired.

Promotions.—One lieutenant-colonel and assistant medical purveyor to be surgeon with the rank of colonel, 1 surgeon with the rank of lieutenant-colonel to be surgeon with the rank of colonel, 2 surgeons with the rank of major to be assistant medical purveyors with the rank of lieutenant-colonel, 2 surgeons with the rank of major to be surgeons with the rank of lieutenant-colonel, 7 assistant surgeons with the rank of captain to be surgeons with the rank of major, 6 assistant surgeons with the rank of first lieutenant to be assistant surgeons with the rank of captain after five years' service. (Act of June 23, 1874.)

Appointments.—One chief medical purveyor to be surgeon-general with the rank of brigadier-general, 1 surgeon and colonel to be surgeon-general with the rank of brigadier-general, 1 surgeon and colonel to be chief medical purveyor, 4 assistant surgeons with the rank of first lieutenant.*

* One assistant surgeon with the rank of first lieutenant has not yet accepted his appointment.

Vacancies.—There are now eleven vacancies in the Medical Department and one approved candidate who has not yet accepted appointment.

Noneffective medical officers.—There are eight medical officers on sick leave of absence, two of whom have been found incapacitated for active service and recommended for retirement by army boards. There are three medical officers on ordinary leave of absence.

INSPECTIONS BY MEDICAL DIRECTORS.

The inspections by medical directors of departments required by paragraph 1662 of the Army Regulations have been generally made, and their reports indicate a high state of efficiency in the personnel of the Department. The records of the various hospitals are as a rule correctly kept, the reports and returns required by the Department are duly rendered, the medical supplies are abundant in quantity and excellent in quality, and the duties of the officers and men have been performed to the satisfaction of their superiors.

The general health of the troops and the sanitary and hygienic condition of the garrisons will be treated of further on in detail.

Concerning the drills by the Hospital Corps and company bearers for field service, Col. Joseph R. Smith, medical director of the Department of Arizona, reports as follows:

> For the regular attendance of the hospital corps at drill and instruction, and for their proficiency therein, the post surgeon alone is responsible, and must be censured for their want of proficiency.
>
> Not so, however, with the company bearers. For their attendance or nonattendance the responsibility rests with the commanding officer of the post or the company commander, one or both.
>
> The records show that in some cases the bearers have not been designated as required by Army Regulations, par. 1574, and in the great proportion of the cases the concurrence of the post surgeon, required by the same regulations, is entirely ignored.
>
> Almost always the commanding officer fixes the time of drill according to Army Regulations, 1575; yet the company bearers fail to appear at the hour fixed, and though in many cases the post surgeon reports the absence, yet the matter is not remedied.
>
> * * * * * * *
>
> I add, that every commanding officer and company commander whom I know, who has personally witnessed the drill, has agreed to its importance, and felt inclined to compel attendance of his company bearers.

As to discipline he says:

> It is respectfully submitted that drunkards should be at once dishonorably discharged, and the attempt to discipline them abandoned. This, because such grave consequences are liable to follow their neglect or error in the hospital ward; that it is a moral crime to thus expose the helpless sick to such danger. A drunken nurse in one minute of error may cause injury that can never be remedied.
>
> Every year's experience still proves the advantage to the service resulting from the addition of the Hospital Corps to the Army organization.

On the subject of surplus medical and hospital property Col. Smith also adds:

> A great part of this has accumulated in consequence of the abandonment of neighboring posts, whose property had to be transported to the nearest suitable place to be cared for. It is not easy to decide what is the best disposition to make of this property in every case. At the great majority of the military posts, or in their vicinity, there is no demand whatever for such property, and a sale at auction would realize but a moiety of their value. Concerning some, it is doubtful whether at a purveying depot they would sell for enough to meet the expense of transportation from post to depot.

IDENTIFICATION OF DESERTERS, ETC.

It gives me great pleasure to be able to report the successful institution by this office of a system which, if efficiently carried out, will do much to suppress desertion and prevent the enlistment of men of bad character. This system is based on the possibility of identifying an individual by the permanent marks or scars that he bears on his body. Every one has some congenital marks on his person, and there are few who have attained the age for military service that the accidents of life have not marked or scarred in one way or another. Moreover, many of the men who enlist have been at considerable trouble, thoughtlessly of course in this connection, to secure their own identification by indelible tattooings. An appreciation of these facts led the officers in charge of the administrative and sanitary divisions of this office to believe that if an accurate record of these personal marks could be made there would be no difficulty in recognizing a deserter or any other individual whose identity was in question. They held that if they were in possession of an "outline figure card," back and front, for every man in the Army, on which was represented accurately all personal peculiarities, no one who had deserted or was discharged for special cause could come in as a recruit without being connected with his former record. To put these views into thorough working practice they required a card for every man in the ranks, a card for every recruit as soon as enlisted, and a prompt notification of all changes in the personnel of the Army, particularly by desertion and discharge for fraudulent enlistment. With this armamentarium they held that no one whose card was on file could come in as a recruit without immediate identification. "Repeaters," as they are called, are the worst class of men that enter the ranks. They exercise an evil influence over the young soldier, such as in prisons is exercised by the hardened criminal over the young and thoughtless offender. To identify and exclude such men from the ranks would undoubtedly be a valuable service, and authority was therefore granted to the officers who proposed the system for their exclusion to proceed with it; but as the preparation of cards giving the personal markings of every man involved a great amount of labor, the authority was restricted to calling only for the cards of those who were enlisted subsequent to the issuance of the order.

On April 1, 1889, the order was issued. Several months were passed in the accumulation of cards, and many months necessarily elapsed before any considerable number of those whose cards had been collected had deserted or been discharged for fraud in their enlistment. Nevertheless, so rapid was the desertion movement in our Army that this office conceived itself in a position to cope with it about the beginning of the last fiscal year. Since then 34 recruits have been identified as deserters, 26 as ex-convicts, and 16 as frauds of a minor grade, making in all 76 cases of identification. These results show that if instead of laboriously and tediously gathering its data to enable it to *begin* its work, this office had been authorized to start with an outline figure card for every enlisted man, a much greater and more immediate good would have been accomplished. In progress of time, however, working on these lines, every man will be represented in this office by his card, when it will be impossible for a man who has a bad record to come into the ranks undetected. So much has been accomplished under all the difficulties attending the laborious starting of this system that I have no hesitancy in recommending that facilities be granted for its perfection by calling for the cards of all men now in service.

RECRUITING.

During the year 19,926 recruits were examined; white 18,437, colored 1,489. The rejections numbered 13,135; white 12,179, colored 956. Of every thousand candidates for enlistment 659.2 were refused, the white rate of rejection being 660.6, the colored 642.0. To defects of vision and eye diseases were attributed the disability of 86.5 of every thousand candidates; to diseases of the digestive system and developmental diseases, 50.7 each; to genito-urinary diseases, 37.2; to diseases of the circulation, 31.9. Age was the cause in 45.7 of the thousand, 35.5 being too young and 10.2 too old. Height, under or over, in 22.8, and weight or size in 43.3; while 15.4 were refused on account of character, and 16.9 for deficient knowledge of the English language. Further details may be found in Table XXII*.

In his sanitary report for December Maj. D. G. Caldwell, depot surgeon at Jefferson Barracks, Mo., states that—

> During the year 1,101 recruits were examined on their arrival from the various rendezvous, and 57 for enlistment at this depot. Of those examined upon arrival 70 were rejected and brought before a board of inspectors; of the 57 examined for enlistment 13 were rejected. Defects, which were not considered actually disqualifying, were noted and recorded in 137 cases of accepted recruits. This course was dictated by a desire to retain in the Army all men likely to render satisfactory service. I am of opinion that a somewhat better class of recruits has been secured during the past year, and that the system of summarily discharging men found on trial to be worthless or incorrigible has proved to be of great benefit to the service.

HEALTH OF THE ARMY.

The rate of admission to sick report during the year, 1,384 per thousand of strength, is somewhat higher than the rate for the previous year, 1,315; but the number of men constantly sick, 42.71 per thousand, compares favorably with 44.12 in the previous year, and 43.49 as the annual average of the decade. The number of days lost on account of sickness averaged 15.6 as compared with 16.1 in the previous year, and with 15.9 as the average of the previous decade.

The principal causes of the 1,384 admissions per thousand of strength during the year were: Injuries, 244; diseases of the digestive system, 171; influenza, 168; diarrhœal diseases, 124, and diseases of the respiratory organs, 111. Considered in relation to noneffectiveness, injuries took the first place, having been the occasion of 7.85 of the total of 42.71 constantly sick per thousand of strength; venereal diseases took second place as a disabling cause, accounting for 4.86 of the noneffective rate; disorders of the digestive system came third, with a noneffective rate of 3.35; diseases of the respiratory organs, chiefly bronchitis, fourth, with a rate of 3.34, and malarial diseases fifth, with a rate of 2.79. Malarial fevers, which came second in the list of causes of admission last year, have no place this year among the five prominent causes. They would have taken fifth place, however, with 93 per thousand of strength, but for the accidental interposition of influenza. It is to be noted that injuries caused only 244 admissions per thousand of strength as compared with 249 in the previous year, although the present record includes a total of 116 gunshot wounds, most of which occurred during the Indian troubles near Pine Ridge Agency in December last.

The mean strength of the command from which medical reports were

* Page 144.

received during the year amounted to 24,234 men—white, 21,910; colored, 2,324. The admission rate for the white troops was 1,347, as compared with 1,319 for the previous year, and with 1,529 for the previous decade; while the corresponding rates for the colored troops were 1,733, 1,281, and 1,688. The number of colored men constantly sick was 48, and the number of days lost by sickness 17.4 for each man.

The causes of admission were the same among the colored as among the white troops; but malarial fevers and alcoholism were less frequent. Influenza, diseases of the digestive system, diarrhœal diseases, headache, neuralgias, and rheumatism were much more prevalent among them than among the whites. There was also a rate of 105 of venereal cases per thousand of strength among the colored men as against 72 among the white troops.

In comparing our sick rate with those of the last published record of the British army on home stations it is found that our admission rate is higher, because in our Army every man who is excused from any part of his duty, no matter how trivial the disabling cause, is taken on sick report; but the nonefficient rate, which is a more accurate exponent of sickness, was less with us, we having 42.71 per thousand of strength constantly sick as compared with the British rate of 44.45.

Army.	Mean Strength.	Ratios per 1,000 of mean strength.						Average sick time to each soldier.
		Admissions.	Deaths.			Discharges.	Constantly noneffective.	
			Disease.	Injury.	Total.			
United States, 1890	24,234	1,384.25	5.25	3.45	8.69	23.01	42.71	15.6
United States, 1889	25,008	1,315.02	3.95	2.38	6.33	22.79	44.12	16.1
United States, 1879–1888	23,828	1,544.22	5.98	3.25	9.23	31.99	43.49	15.9
Austria-Hungary, 1889	281,569	951.29	4.41	1.89	6.30	44.73	39.51	14.4
Belgium, 1889	46,471	1,330.57	3.96	.43	4.39	17.02	27.26	10.0
Great Britain (home), 1888	101,695	740.89	4.72	.80	5.52	15.91	44.45	16.3
Prussia, Saxony, Würtemberg, 1887–'88	417,104	804.13	2.38	.86	3.24	32.20	29.16	10.9

In the army of Austria-Hungary the causes of admission in order of prominence were (1) diseases of the integument, (2) those of the digestive system, (3) bronchitis and pneumonia, (4) injuries, and (5) venereal diseases. In the army of Belgium the causes were (1) diseases of the digestive system, (2) injuries, (3) diseases of the integument, (4) bronchitis and pneumonia, and (5) venereal diseases. In the army of Great Britain on duty in the United Kingdom they were (1) venereal diseases, (2) injuries, (3) diseases of the digestive system, (4) integumentary diseases, and (5) bronchitis and pneumonia; and in the army of Prussia (1) integumentary diseases, (2) injuries, (3) diseases of the digestive system, (4) bronchitis and pneumonia, and (5) rheumatism. In all these armies, and in our own, tonsillitis or quinsy formed a large proportion of the cases recorded under the heading of diseases of the digestive system.

The death rate of 8.69 per thousand of strength represents 232 deaths, 203 whites and 29 colored; but as 92 of these resulted from injuries, 85 white and 7 colored, the death rate from disease was only 5.25—4.88 per thousand for the white and 8.74 for the colored troops. The lowest annual death rate from disease in the history of our Army was that recorded in the last annual report, 3.95; the second best record was that of the year 1885, when the rate for disease was 4.76. The rate for the present year is but little in advance of the latter, notwithstanding

that the troops were considerably exposed during its progress on account of the operations against the Sioux Indians.

Among the principal causes of death were typhoid fever, credited with 13 deaths; diseases of the nervous system, such as apoplexy, insanity, paralysis, etc., with 21; pulmonary phthisis, 19; pneumonia, 14; gunshot wounds, 61; drowning, 12, and other injuries, 14. The death rate among the white troops was 8.40 per thousand, among the colored troops 11.52. The rate from injuries was larger among the whites, 3.52, than among the colored, 2.78; but, as usual, the rate from disease among the latter, 8.74, was nearly double that furnished by the white troops.

The discharge rate of the Army, 23.01 per thousand of strength, represented 614 men, 542 white and 72 colored; 62 of the 614 resulted from injury, 552 from disease. Of the latter 71 were caused by venereal disease, 67 by epilepsy; insanity, and other diseases of the nervous system, 56 by heart disease and other affections of the circulatory system, 42 by pulmonary phthisis, and 52 by muscular and chronic articular rheumatism; and in addition to the injuries above mentioned 32 were occasioned by rupture, an accident pure and simple, yet placed by medical statisticians among diseases of the organs of digestion. The ratio of discharges among the whites was 22.43, among the colored 28.61.

The relative number of discharges has been materially lessened during the past two years. The rate now recorded, 23.01, per thousand of strength, compares satisfactorily with that of last year, 22.79, and both are a great improvement on the average annual rate of the decade, 1879–1888, 31.99. This saving of men to the service has been the result of two causes, the care exercised by medical directors in having every doubtful case treated under their personal observation prior to discharge, and the beneficial effects, particularly in chronic rheumatism, of treatment at the Army and Navy Hospital, Hot Springs, Ark.

The discharge rate of the army of Austria-Hungary in 1889 was 44.73; of the army of Prussia, Saxony, Würtemberg, in 1887–'88, 32.20; of the Belgian army, 17.02, and of the army of Great Britain, on the home stations, 15.91. The most striking point observable in comparing the discharges from our Army with those from the armies of Europe is one that was specially noted and commented on in the last annual report from this office, the small number of discharges for venereal diseases from the European ranks. While we discharged 71 men during the year on account of these diseases from our mean strength of 24,234 men, the British discharged only 98 from their home strength of over 101,000; Austria-Hungary 20 from its strength of over 280,000; Prussia 17 from its army of over 417,000, and the Belgians none from their army of over 46,000; and this is not because such diseases were rare in those armies, for, as already stated, venereal diseases did not constitute among our troops one of the five principal causes of admission to sick report, while in the European armies cited, with the exception of the Prussian, they were thus prominent: In the British army they came first with a rate of 224 per thousand as compared with 75.21, the rate of our Army, or 1 affected out of every 4 in the British ranks during the year, against 1 in 13.3 among our troops.

HEALTH OF THE MILITARY DEPARTMENTS.

The statistics of the various departments show considerable variation in all the rates. The admissions ranged from 1,134 per thousand of strength in the Department of Dakota to 1,626 in that of Texas, the

Army averaging 1,384. The death rate varied from 2.59 per thousand living in the Department of California to 11.65 in the Department of the Missouri, the Army average being 8.69. The rate of discharge for disability ran from 14.42 per thousand in the Department of the Platte to 30.25 in that of California, the average of the Army being 23.01. The noneffective rate or number constantly sick per thousand of strength varied from 32.63 in the Department of Dakota to 50.75 in that of Texas, the Army average being 42.71. The duration of each case on the sick list varied but little from the average of 11.3 days. It was shortened in the Department of the Platte to 9.9 days and lengthened in that of the Missouri to 11.5 days. Giving due consideration to all the rates it is evident that the best record is presented by the Department of the Platte and the worst by the Department of Texas.

If venereal diseases, alcoholism, and vaccinia be omitted from the statistics the admission rate is found to vary from 807 in the Department of Dakota to 1,216 in the Department of Texas; the death rate from 1.73 in the Department of California to 6.62 in that of the Missouri; the rate of discharge for disability from 10.48 in the Department of the Platte to 24.20 in California, and the number constantly sick from 21.96 in Dakota to 34.50 in Texas. The Department of Dakota appears from these statistics to be that in which the soldier is least exposed to the causes of disease and the accidents of a military life, and the Departments of Texas and Arizona those in which these causes are at their maximum.

DEPARTMENT OF THE EAST.

In this department, strength 5,527 men, the admission rate was 1,517 per thousand of strength as compared with 1,384 in the Army as a whole; the death rate 6.15 as compared with 8.69; the discharge rate 23.52, differing but little from the Army average of 23.01; the noneffective rate 44.77, a little larger than the Army rate of 42.71; and the number of days' treatment of each case 10.8, the general average being 11.03.

The principal items constituting the excess of admissions in this department were vaccinia 80 per thousand against 32 in the Army; venereal diseases, 107 as against 75; tonsillitis and digestive troubles, 191 as against 171, and alcoholism 57 as against 41.

Omitting the smaller posts, the ratios of which have little practical value, it is found that the increase in the admissions in this department was chiefly due to the rates of Fort McPherson, Ga., 2,489; Jackson Barracks, La.; 2,163, Columbus Barracks, Ohio, 1,876; Willets Point, N. Y., 1,812; Fort Monroe, Va., 1,709; Davids Island, New York, 1,643, and Fort Hamilton, N. Y., 1,626.

The largest non-effective rates were recorded at Columbus Barracks, Ohio, 77.55; Jackson Barracks, La., 70.64; Mount Vernon Barracks, Ala., 68.57; St. Francis Barracks, Fla., 66.76; Fort McHenry, Md., 63.73, and Fort McPherson, Ga., 61.16.

The best record was shown by Fort Adams, R. I., 782 admissions and 25.38 constantly sick.

DEPARTMENT OF THE PLATTE.

In this department, showing 3,052 men, the admission rate was 1,251, the death rate 8.19, the discharge rate 14.42, the noneffective rate 33.96, and the number of days of treatment to each case 9.9.

The principal items which caused the lower admission rate were 54 cases of malarial disease less per thousand of strength than the aver-

age of the Army, 29 less of venereal disease, 29 of influenza, and 27 of vaccinia. On the other hand, the rates for alcoholism and rheumatism were somewhat greater than the Army average.

The highest rates in this department were given by Fort Washakie, Wyo., 2,036 admissions and 49.98 noneffective; and by Fort Robinson, Nebr., 1,896 and 44.51. The best record was given by Fort Omaha, Nebr., 672 admissions and 31.83 noneffective.

DEPARTMENT OF DAKOTA.

In this department, strength 4,132 men, the admission rate was 1,134, the death rate 13.31, the discharges for disability 16.70, the noneffective rate 32.63, and the number of day's treatment to each case 10.5.

The chief causes of the lessened admission rate in this department were 72 cases of malarial disease, less than the average of the Army, 42 of diarrhœal diseases, 36 of venereal, 23 of diseases of the digestive system, 18 of alcoholism, and 15 of boils, abscesses, etc.

The highest rates in this department were given by Fort Maginnis, Mont., admissions 1,737, and noneffective 45.35. On the other hand, Fort Keogh, Mont., had only 674 admissions and 25.66 noneffective.

DEPARTMENT OF THE MISSOURI.

In this department, strength 3,776, the admissions were 1,381 per thousand of strength, the deaths 11.65, the discharges 26.48, the number constantly sick 43.33, and the duration of each case 11.5 days.

There were 90 cases of malarial disease per thousand of strength more than in the Army at large; but as an offset the rate for influenza was 39 per thousand of strength less; for boils, abscesses, etc., 26, and for alcoholism 18. The rates of diseases of the respiratory organs and of the digestive system were also somewhat less than the average.

The posts which mainly contributed to sustain the high rates in this department were Fort Sill, Okla., with 2,552 admissions and 47.41 noneffective, Fort Elliott, Tex., with 1,984 and 76.71, and Fort Reno, Okla., with 1,922 and 56.53. The best record was given by the prison guard at Fort Leavenworth, with 939 admissions and 18.53 noneffective.

DEPARTMENT OF TEXAS.

In this department, strength 2,095 men, the highest departmental admission rate was found, 1,626; the death rate was 6.68, the discharge rate 26.25, the noneffective rate 50.75, and the duration of each case 11.4 days.

The excess of admissions in this department consisted mainly of 151 cases of malarial disease per thousand of strength more than in the Army at large, with an excess of 77 diarrhœal cases, 43 venereal, 36 headaches and neuralgias, and 28 ephemeral fevers; diseases of the digestive and respiratory organs were, however, a little less frequent than the average.

The posts which mainly contributed to these high rates were Fort Sam Houston with 2,431 admissions and 63.25 noneffective, Fort Brown with 1,881 and 65.23, and Fort Clark with 1,669 and 65.25. The best record was given by Fort McIntosh, 738 admissions and 25.31 noneffective.

DEPARTMENT OF CALIFORNIA.

In this department, strength 1,157 men, the admission rate was 1,201, the death rate 2.59, the discharge rate 30.25, the noneffective rate 36.54, and the average duration of each case 11.1 days.

The principal differences between the diseases of this department and those of the Army at large may be expressed by the statements that there were in it 24 cases of malarial disease per thousand of strength less than the average, 66 less of diarrhœal diseases, 17 less of vaccinia, 10 less of alcoholism, 27 less of headache and neuralgia, and 48 less of diseases of the digestive system. On the other hand, there were relatively more of certain other diseases, the chief items being 26 more of dermatitis from heat and other causes of tegumentary irritation, and 19 of diseases of the respiratory organs.

The highest rates were recorded at the Presidio of San Francisco, admissions 1,413 and noneffective 45.96. The best record was given by Angel Island, 920 admissions and 27.44 noneffective.

DEPARTMENT OF THE COLUMBIA.

In this department, strength 1,464 men, the admission rate was 1,331, the death rate 7.51, the discharge rate 20.49, the noneffective rate 40.18, and the average duration of each case 11 days.

Although the admission rate differed but little from the average of the Army, there were many differences in the character of the prevailing diseases. Thus, per thousand of strength, the Army average exceeded the cases in this department by 35 of influenza, 37 of malarial diseases, 41 of diarrhœal diseases, 12 of venereal diseases, 24 of vaccinia, and 9 of boils, abscesses, etc., while as an offset there were 80 cases more of diseases of the respiratory organs, 21 of alcoholism, 8 of rheumatism, and 16 of injuries.

The post which had the highest rates was Fort Sherman, Idaho, with 1,838 admissions and 44.15 constantly sick.

DEPARTMENT OF ARIZONA.

In this department, strength 2,984 men, the admission rate was 1,568, the death rate 9.38, the discharge rate 29.49, the noneffective rate 46.90, and the average duration of each case 10.9 days.

The diseases that prevailed to a greater extent than in the Army at large were influenza, with an excess of 126 cases per thousand of strength over the general average, injuries with an excess of 51, diseases of the digestive system with 43, headache and neuralgia with 13, and rheumatism with 34. On the other hand, the Army average exceeded that of the department by 29 cases of vaccinia, 19 of diseases of the respiratory system, and 25 of malarial disease. This department had formerly the reputation of being a notoriously malarious region; but by sanitary measures at the occupied posts and the abandonment of those in insalubrious localities the department has now a better record in this respect than the average of our military stations.

The posts which contributed most to the high rates of the department were Fort Apache, Ariz., 2,372 admissions and 55.51 noneffective; Fort Grant, Ariz., 2,208 and 50.30; Fort Wingate, N. Mex., 1,788 and 60.82; Fort Stanton, N. Mex., 1,662 and 67.83, and Whipple Barracks, Ariz., 1,685 and 61.80. The posts with the best records were Fort Huachuca, Ariz., with 702 and 22.02, and Fort Union, N. Mex., with 775 and 26.53.

HEALTH OF INDIVIDUAL POSTS.

Reports were received during the year from 139 military stations; 14 of these were garrisoned by 400 to 642 men each, average 474; 11 by 308 to 393, average 347; 19 by 200 to 296, average 251; 31 by 100

to 198, average 138; and 64 by 5 to 99, average 54. Those having a strength of over 200 men had rates of admission and noneficiency greater than the average of the Army, while the smaller posts as a rule had lesser rates. This is to be attributed in part to the fact that at the large posts men with trivial ailments were taken on sick report, while at the smaller posts, where every available man was required for duty, the same ailment would be treated without a formal recognition on the sick reports.

Of the fourteen large posts four had rates of admission and noneffectiveness considerably larger than the average of the Army: Fort Sam Houston, Tex., had 2,431 admissions per thousand of strength and 63.25 constantly sick; Columbus Barracks, Ohio, 1,876 and 77.55; Fort Clark, Tex., 1,669 and 65.25; and Davids Island, New York, 1,643 and 52.45. Fort Monroe, Va., gave also a higher record than the Army as a whole. Willets Point, N. Y., had a larger admission rate, and Fort Leavenworth, Kans., a larger noneffective rate, with the highest death rate of the fourteen posts, 15.36 per thousand of strength, one-third of which was due to injuries.

At Fort Sam Houston malarial and typhoid fevers, diarrhœal and venereal diseases made up the excess both of admissions and noneficiency. The large rates at Columbus Barracks, Ohio, were due to the vaccination of recruits and the prevalence of venereal diseases. The latter occasioned 380 admissions per thousand of strength, with 24.74 constantly sick. Singularly enough, with this record alcoholism furnished a rate of only 18 as compared with 40.73 in the Army as a whole; injuries were infrequent at this depot. At Fort Clark, Tex., malarial fevers and venereal diseases occasioned the increased rates, the former causing 451 admissions per thousand of strength, and 18.38 of noneffectiveness, and the latter 153.85 and 12.69. The excess of admissions at Davids Island, New York, was chiefly the result of vaccinating the newly enlisted men; at Fort Monroe, Va., it was due to diarrhœal troubles; at Willets Point, N. Y., to diarrhœa and alcoholism, with rheumatism and bronchitis as probably the indirect consequences of the latter. The high rate at Fort Leavenworth was attributable in part to typhoid and malarial fevers, but chiefly to injuries.

Columbus Barracks, Ohio, Jefferson Barracks, Mo., and Fort Leavenworth, Kans., gave the highest rates of discharge for disability, 63.75, 41.87, and 40.96, respectively. At Columbus Barracks the absolute number was 32—3 for injuries and 29 for diseases, of which 21 were due to venereal; at Jefferson Barracks 17—1 from injury and 7 from venereal, and at Fort Leavenworth 24—3 from injuries and none from venereal.

The best record among the large posts was presented by Fort Omaha, Nebr.; admission rate 672, noneffective rate 31.83.

Of the eleven stations garrisoned by 300 to 400 men each, Fort Sill, Okla., and Fort Grant, Ariz., had the largest admission rates, 2,552 and 2,208, respectively, while Fort Wingate, N. Mex., and Fort Custer, Mont., had the largest noneffective rates, 60.82 and 57.91. Malarial fevers and diarrhœa constituted the excess at Fort Sill; influenza, diseases of the respiratory organs, and injuries at Fort Grant. Influenza, venereal diseases, rheumatism, and injuries occasioned the large noneffective rate at Fort Wingate; influenza and bronchitis, eye diseases and injuries, at Fort Custer. Fort Keogh, Mont., presented the excellent rates of 674 for admissions and 25.66 for noneffectiveness, and this although the admission rate for alcoholism, 51.87, was considerably above the average. Fort D. A. Russell, Wyo., and Fort Meade, S. Dak., also had good records, the former 1,052 admissions, with 27.61 of non-

effectiveness; the latter 854, with 35.34. At Fort D. A. Russell the largest item on the sick reports was an admission rate of 135 for bronchitis, as compared with 74 for the Army as a whole; of venereal diseases, only one case was recorded at this post during the year. At Fort Meade only four cases of alcoholism were reported, but two of these terminated fatally, the only deaths that occurred at the post.

Fort Robinson, Nebr., had the highest death rate of these eleven posts, 25.45 per thousand, the absolute number being 10—2 from injury, 3 from pneumonia, 2 from diseases of respiration, 2 from diseases of the kidneys, and 1 from typhoid fever. Fort Grant came second, with a rate of 21.41, yielded by 7 deaths—2 from injuries, 2 from heart disease, and 1 each from typho-malarial fever and diseases of the respiratory organs and kidneys.

Fort Sill and Fort Wingate had the highest rates of discharge, 36.36 and 33.43, respectively, the absolute number in both instances being 12.

Of the nineteen stations garrisoned by 200 to 300 men each, Fort Apache, Ariz., had an admission rate of 2,372, with 55.51 constantly noneffective, but the highest noneffective rate was shown by Whipple Barracks, Ariz., 61.80, with an admission rate of 1,685. The rates at Fort Reno, Okla., and at Fort Sherman, Idaho, were also unusually high. At Fort Apache influenza, malarial fevers, diarrhœa, rheumatism, neuralgia, diseases of the digestive system, and injuries occasioned the increased admission rate; but injuries and malarial fevers contributed most of the inefficiency. At Whipple Barracks the high rate was caused by a general increase of all diseases; the admission rate for alcoholism was unusually large, 157.67, with 1 man per thousand constantly sick. At this post five cases of typhoid fever, two of consumption, and four of heart disease added materially to the rate of noneefficiency. The causes of the increased rates at Fort Reno were malarial fevers, diarrhœa, catarrhs, diseases of the digestive system, of the integument, and injuries; at Fort Sherman influenza, alcoholism, rheumatism, bronchitis, digestive disorders, and injuries.

The best record among these nineteen stations was given by Fort Huachuca, in Southern Arizona; admission rate 702, with 22.02 noneffective, and this although its admissions for influenza alone constituted 225 per thousand.

Washington Barracks, D. C., Whipple Barracks, and Fort Apache, Ariz., had the largest rates of discharge, 66.67, 58.09, and 45.45, respectively, the absolute numbers being 17, 14, and 11 men. Seven of the 17 at the first-mentioned post were due to heart disease.

Of the thirty-one posts garrisoned by 100 to 200 men each, Fort McPherson, Ga.; Fort Washakie, Wyo.; and Fort Bowie, Ariz., had admission rates of over 2,000 per thousand of strength. At Fort McPherson diarrhœal and venereal diseases, alcoholism, rheumatism, and bronchitis contributed to the excess; influenza and injuries at Fort Washakie, and tonsillitis, other diseases of the digestive system and injuries at Fort Bowie. Leavenworth prison had the best record among these posts; admission rate 939, noneffective 18.53. Fort Adams, R. I.; Fort Sheridan, Ill.; Angel Island, Cal.; Fort McKinney, Wyo.; Fort Union, N. Mex.; and Forts McIntosh, Bliss, and Ringgold, Tex., had also good records during the year.

Of the sixty four small posts having a strength of less than 100 men each, Jackson Barracks, La., had the highest rates: admission 2,163, noneffective 70.64, due mainly to malarial, venereal, and diarrhœal diseases, alcoholism, and injuries. San Diego Barracks, Cal., appears on this list as having the highest noneffective rate, but this was because

men affected with rheumatism, bronchitis, and consumption were transferred to that station, to give them the benefit of its temperate and equable climate. During two and a half years, ending June 30, 1891, 20 cases were treated, and of these only 3, or 15 per cent, were cured. Of 9 cases of phthisis the result was favorable in none. In view of this experience Col. Joseph R. Smith, medical director of the department, has recommended that no other such cases be transferred to this post.

Of all the military stations in the country Fort Sill, Okla., had the highest rate of admission to sick report, 2,552 per thousand of strength, closely followed by Fort McPherson, Ga., Fort Sam Houston, Tex., Forts Apache and Grant, Ariz., and Jackson Barracks, La.

Omitting San Diego Barracks, which was in a measure a general hospital, Columbus Barracks, Ohio, had the largest noneffective rate, 77.55 per thousand of strength; Fort Elliott, Tex., followed with 76.71; Jackson Barracks, La., with 70.64; MountVernon Barracks, Ala., with 68.57; and Fort Stanton, N. Mex., with 67.83. The rate at Columbus Barracks has always been high, but at the other posts mentioned there has been much variation during the past few years, showing that the high rate of the present year is due to the special conditions of the year rather than to the localities or the permanent local conditions,

At the three recruiting depots the admissions were considerably increased by the results of vaccination. Deducting these, Jefferson Barracks would have the low rate of 833 per thousand of strength, of which 167 were occasioned by venereal diseases. The small rate from diseases in general was due to the freedom of the post from influenza, and low rates for diarrhœa, rheumatism, bronchitis, diseases of the digestive organs, and alcoholism. With a similar deduction Davids Island would show an admission rate of 1,205.07, 105.99 of which were venereal cases. With suppression of the vaccination Columbus Barracks would have had an admission rate of 1,555.77, 380.46 of which were caused by venereal diseases, yielding a discharge rate of 41.83 and a noneffective rate of 24.74 per thousand of strength. But for this class of diseases the recruiting depots, particularly Jefferson Barracks and Davids Island, would have compared favorably with any of our large posts.

THE PREVALENCE OF SPECIAL DISEASES.

SPECIFIC FEBRILE AND ACUTE INFECTIOUS DISEASES.

The specific febrile and acute infectious diseases had high rates during the year, 177.89 admissions per thousand of strength; but if the rate for influenza is deducted from this there is left a rate of only 9.94, 5.24 of which were due to typhoid fever and 2.48 to measles.

Cerebro spinal fever.—One case, terminating favorably, was reported from Fort Abraham Lincoln, N. Dak.

Dengue.—Six cases occurred at Fort McIntosh, Tex., and 1 at St. Francis Barracks, Fla.

Diphtheria.—Only 5 cases occurred among the troops: 2 at Fort Porter, N. Y.; 2 at Fort Trumbull, Conn.; and 1, fatal, at Frankford Arsenal, Pa. The second case at Fort Trumbull was in the person of the private of the hospital corps in attendance on the first. Deadly outbreaks of this disease among the children were reported from Jefferson Barracks, Mo., Fort Hamilton and West Point, N. Y. At the first-mentioned post 4 cases, 3 of which were fatal, were developed in the family of the quartermaster-sergeant twenty-four days after moving into a set of quarters which had been visited by the disease in 1886.

A rigid quarantine was established, and the building was afterwards thoroughly disinfected. Three families suffered at Fort Hamilton, in one, 8 cases with 2 deaths; in another, 3 cases with 2 deaths, and in a third, 2 cases, with recovery in both. At West Point the disease was first reported as virulent in November, 1889, when all the 6 children of one family were taken sick and 4 died. The next outbreak was in February, 1890, when almost simultaneously two families, living half a mile apart and having no intercourse with each other, became prostrated. Of 15 children in these 2 families 13 suffered from the disease and 5 died. A fatal case occurred in another family in March, and 1, ending favorably, in April. Capt. W. F. Carter reported on these cases as follows:

The disease made its appearance in the more modern and substantial as well as in the oldest and most dilapidated buildings on the reservation and in houses widely apart. The first case appeared in the house of Sergeant Emerick. This family lived in the south side of the second building on the south end of a row of nine houses comprising a settlement known as "Logtown." These buildings are old frame structures, each divided into two sets of quarters. They are arranged in a straight line along the brow of a hill which rises rather abruptly (the road intervening) in front, and falls away quite precipitately in rear along the whole line. From Emerick's house the disease extended to the house of Private Brannigan, who occupied a comparatively new brick building standing by itself and in an apparently healthy locality. It is believed, however, that the cesspool in rear of the quarters was at the time in bad condition. The next cases occurred in Private Dwyer's quarters, a brick structure situated near the northern extremity of Logtown. The next appearance of the disease was in the family of Private Eiseman, of the band, who occupied two rooms situated near the center of the band barracks, a substantial brick building. Subsequent to this a case developed in the Cadet Barracks. This case was removed to an upper small room in the Cadet Hospital. The building occupied by the Emericks is, as already stated, an old frame structure. Beneath it is a cellar coextensive with the superstructure. The cellar walls are of stone. The walls of the house are composed of clapboards outside, laths and plaster inside, and the intermediate framework. The set, or half the house, consists of one room on the first and one on the second floor. Back of the lower room, and overhanging the slope of the hill, is a small addition comprising two small rooms. The cellar, being cut into the side of the hill seems to intercept the natural springs in the soil, and is therefore more or less damp or wet. It has no means of ventilation except the door and a small opening in the upper part of its wall. Both the door and this opening are probably kept closed in cold weather. The heavy sills supporting the framework of the house have become rotten; they have given way under the weight of the house, allowing it to settle down more or less upon the cellar wall. The plastering is old, cracked, and imperfect. The floors are presumably old and more or less porous. As this is an old building, it is reasonable to infer that the soil about it has to some extent become fouled. The above description applies to all the houses comprising the older portion of Logtown. The stone buildings occupied by Brannigan and Dwyer are good, substantial structures, in fairly good condition. Eiseman's quarters (in the band barracks) are in good condition. The rooms in the cadet barracks and in the cadet hospital are in excellent condition. In stating the condition as good and excellent, reference is had to the state of general repair and cleanliness.

I premise my recommendations with the statement that every house and room in which diphtheria occurred were thoroughly cleaned and disinfected. In most cases the walls and woodwork were scraped and thoroughly washed with disinfecting fluid and the rooms fumigated with sulphurous acid. This work was done under the intelligent direction and faithful supervision of the medical officers of the post, to whom every possible assistance was given by the superintendent of the Academy and the post quartermaster. To the prompt and thorough sanitary quarantine measures adopted is due the fact that diphtheria and scarlet fever did not extend more widely over a somewhat promising field. It might seem that ample precautions had been taken to eradicate the specific poison of this disease; but it should be borne in mind that the specific morbific agent in diphtheria is possessed of great tenacity and virulence. It clings to solid and semisolid bodies, and in this way is transmitted even after a long time. There is hardly any disease which can cling so tenaciously to dwellings and furniture. * * * Possessing, therefore, a knowledge born of bitter experience as to the dangers that may linger after an epidemic of diphtheria, I think we would not do more than prudence dictates if we take additional sanitary

precautions before the beginning of cold weather, as during the winter season, when ventilation of these houses will be cut off by the closure of doors and windows, the condition becomes much more favorable for the development of this disease. It is therefore recommended that in the separate brick buildings and in the rooms of private Eiseman, the walls, the ceilings, and all woodwork (including doors and windows, door, window, and mantel facings, baseboards, cornices, and floors) be again thoroughly washed down with disinfectants; that the solution be thrown into cracks and crevices, about all facings, baseboards, mantels, floors, etc.; that all the furniture, carpets, bedding, and drapery be removed and thoroughly shaken or beaten, aired or sunned, and, where practicable, washed. After the washing with the disinfecting solution the walls may be again whitewashed and the woodwork painted. It is not thought necessary to apply these measures in the rooms of the cadet barracks and hospital, as the work is believed to have been done thoroughly in the first instance, and the rooms have since been cleaned and painted. In the case of the house in which the four Emerick children died, I can not but express the opinion that it is unsafe. The rooms of this house were, I think, fumigated; but fumigations are of doubtful efficacy in an old building having so many inaccessible crevices in and behind the plastering and between it and the clapboards and in the interstices of the decaying timbers. Besides this, and were there no specific poison about the structure, there are more or less active chemical changes going on in the old woodwork and in the organic matter about the premises, a condition which in itself may stand in a causative relation to the disease in question. In my opinion this house should be abandoned, and for the reasons stated in this report. I think all the old buildings of this class should be vacated and torn down as soon as it is possible to procure other quarters for the families now occupying them. I do not believe it would be economy to attempt to put them in good condition.

Scarlet fever.—Only 6 cases of scarlet fever occurred among the troops: 2 at Fort Keogh, Mont., and 1 each at Columbus Barracks, Ohio; Fort Logan, Colo.; Fort McHenry, Md., and Fort Maginnis, Mont. This fever was present also at Davids Island and Watertown Arsenal, N. Y.; at Newport Barracks, Ky., and Forts Davis and McPherson, Tex.; but only 1 case or 1 family was affected at each. Prompt isolation confined the disease, and disinfection of the person, clothing, bedding, and dwelling prevented its recurrence. At West Point, however, these measures were not so successful. The epidemic was carried over from the previous year. Eight cases occurred among the children in January, and in April 3 cases among the cadets.

Measles.—Sixty cases of this disease occurred among the enlisted men: 24 among the recruits at Columbus Barracks, Ohio; 6 at Fort Barrancas, Fla.; 5 at Fort Buford, N. Dak., and the remainder scattered among 16 different posts, where prompt isolation and disinfection prevented its spread from the 1 or 2 cases first attacked. The measures adopted to repress the disease at Columbus Barracks failed so far as the recruits were concerned, but were attended with best results among the families and children; only 9 children became affected, 5 in the families of officers and 4 in those of enlisted men. At Fort Niobrara, Nebr., an officer's child in the prodromic stage of the disease attended school, and 12 children, representing 9 families, became infected. Thirty-three cases resulted from this invasion, 30 among the families and 3 among the soldiers; all ended favorably. At Fort Buford, 16 children became affected; at Mount Vernon Barracks, Ala., 5, and at Jackson Barracks, La., 4. Several cases occurred among the families of quartermaster's employés at Fort Riley, Kans.

Smallpox.—One case of confluent smallpox occurred in an enlisted man at Fort Marcy, N. Mex., and a case of varioloid at West Point, N. Y., in an officer's child. Proper sanitary measures prevented any undesirable developments from these cases.

Typhoid fever.—There were 127 cases of this fever during the year, 13 of which were fatal, 7 cases with 1 death having occurred among the colored troops. The disease was reported from 38 posts. Fort Sam Houston, Tex., had 29 cases in July and August; Fort Elliott, Tex., 12;

Fort Leavenworth, Kans., 8; Fort Custer, Mont., and Fort Walla Walla, Wash., 6 each. Five posts had 5 cases each, one post 4 cases, two 3 cases, six 2 cases, and nineteen 1 case each.

The admission rate for the Army as a whole was 5.24 per thousand of strength. The rate for the infantry was a little higher than the average; for the cavalry considerably higher, 7.36; and for the young cavalry officers considerably higher than for their men: for the artillery notably lower, 3.04, than the average; and for the Hospital Corps and its officers who were in constant contact with the cases, only 1.19. Men between the ages of 20 and 24 had the largest rate, 10.61, and the officers of that age suffered more than their men, 33.90. The Irish, German, and English in our Army had about the average rate, the native Americans somewhat less, 4.89; Canadians and natives of the continent of Europe, Germans excepted, nearly double the average rate.

The medical officers at some of the posts, as Fort Myer, Va., Fort Sherman, Idaho, and Mount Vernon Barracks, Ala., hold the disease to have been imported. Others, as those at Fort Niobrara Nebr., Whipple Barracks, Ariz., and Fort Leavenworth, Kans., allow the local origin of the cases, but are undecided as to the manner of the invasion. At Fort Elliott, Tex., Acting Assistant Surg. Whitney shows the immediate cessation of the outbreak on the closing up of a polluted well; Capt. Bushnell, at Camp Pilot Butte, Wyo., argues that the disease is occasionally propagated by infected dust settling on the water supplies; Capt. Merrill, at Fort Reno, and Capt. Rafferty, at Fort Sam Houston, Tex., also considered the water supply to be implicated in the propagation. Some of the cases at the last-mentioned post were afterwards acknowledged to have been adynamic remittents.

Fort Elliott, Tex. (*Acting Assistant Surg. Whitney*).—Heretofore the water supply has been obtained from a well near some old disused privy vaults in the neighborhood of the post hospital. The infection of such wells is usually only a question of time, dependent on the character of the soil and the direction of surface and subsoil drainage. That this well has become infected is shown by the history of the recent outbreak of typhoid fever. The post surgeon reported under date of July 19: "The first case appeared June 28, and there are now under treatment thirteen cases." The well was closed July 19, and one case only, July 21, has appeared since. As no change in the sanitary condition of the post has been made, except the discontinuance of the use of the well water, it appears conclusive that the well was the source of infection.

Camp Pilot Butte, Wyo. (*Capt. G. E. Bushnell*).—A great danger arises from the dust as the carrier of the poison of typhoid fever, which is the disease most prevalent in Rock Springs. It is the universal practice here to throw all kinds of slops and refuse upon the ground adjacent to the house. The ground is thus soon saturated with organic matter and becomes a breeding place for the germs of disease. The discharges of typhoid-fever patients are often thrown recklessly upon the ground, where they dry and are disseminated by the winds. During the frequent dust storms water barrels and food exposed to the air are liable to become infected, and thus the disease is spread indefinitely. Although this theory will not account for all cases of the disease, it is borne out by many facts upon which it is unnecessary to enlarge further than to say that the town of Green River has the same water supply, but is comparatively exempt from the disease. This shows that the infection is not in the water as delivered to the consumer at Rock Springs. The immunity of the Chinese from typhoid fever, notwithstanding their filthy surroundings, is to be ascribed to their habit of eating only thoroughly cooked food and drinking only tea. The practical deduction is that the water barrels used to contain drinking water should be well covered and protected from dust.

Fort Reno, Okla. (*Capt. J. C. Merrill*).—The death of Private Ackerman, Troop K, Fifth Cavalry, on June 27, caused, as the autopsy showed, by typhoid fever, again brings up the subject of the bad water supply of this post as used by all except the commissioned officers; but the work now in progress on a new and deep well renders any further remarks superfluous until the result is known. I have verbally renewed the recommendation made by Capt. Hoff, in March, 1888, that the well on the west side of the parade ground be permanently closed. The water at that time was shown by an analysis made at the Surgeon-General's Office to be impure a

picions, if not actually dangerous, and the surface drainage of the past two years has certainly not rendered it less so. There is little doubt from statements made to me by Private Ackerman before his death, that his disease was contracted within this post, and not at Reno City or El Reno; but whether from the well or river water it is impossible to say.

FORT SAM HOUSTON, TEX. (*Capt. Ogden Rafferty*).—During the absence of the troops at the target range at the fair grounds at San Antonio, Tex., the garrison was thoroughly policed, and the privies in the rear of the barracks were cleaned, the floors cemented, the walls washed and disinfected, and instructions given for a complete removal of the sewage by the dry-earth system, with final disposition at the new Government crematory. The hospital was cleaned, and the tents erected in the yard for the sick were supplied with additional air-spaces by means of poles and tent-flies, over which, in the heated part of the day, a continuous spray was caused to play.

Notwithstanding the precaution taken, on the return of the soldiers (July 13) after an absence of seven days, the sickness continued and increased with a marked ratio. Toward the latter part of July some of the hospital cases that at first were believed to be remittent fever, began taking on typhoid symptoms. At this time considerable trouble was experienced in arriving at diagnosis, owing to the absence of diarrhœa and delirium and the beneficial results obtained from heroic doses of quinine and brandy. Later in the summer the true state of affairs became apparent, the thermometric charts showing clearly that the febrile cases were cases of true typhoid. Dismissing at once the various theories that have proved so perplexing in locating the cause of this sickness, we will consider the one that, on mature deliberation, seems to be the most probable.

On consulting the register it will be found that but one of the 28 cases diagnosticated as typhoid fever antedates the encampment of the soldiers with the State troops at the fair grounds, and more will be written of that case later. Not only do the San Pedro Creek and acequia, but also the Alamo acequia and other streams, empty into the river above the fair grounds. To prove that typhoid fever was positively present at the time in the city, you are invited to consult the statements of mortality furnished by the city board of health. During the month of June, 1890, there were 4 deaths from enteric fever, in July 7, in August 12. Now, taking the lowest percentage of deaths that occurred during several epidemics, as furnished by Dr. Austin Flint, which was 16 per cent, one can readily see that there must have been at least 143 cases in the city during the summer, and, considering our own 28 cases, with two relapses, without a death, the figures are probably below the actual number.

The history of all our 28 cases, with five exceptions, shows that these men were at the encampment, that they used the water taken from the river for drinking and cooking purposes before the pipes from the reservoir were brought into camp, and that during the whole encampment they frequently bathed in the river. Five of the men whose cases were diagnosticated as typhoid fever were not at the encampment, and, so far as can be learned, drank nothing but reservoir water that was taken from the pipes of the city waterworks. * * *

Having found, of the 5 cases in men who were not at the encampment with the militia, that 4 were remittent fever and that a reasonable doubt may be expressed in the diagnosis of the fifth case, your attention is invited to a consideration of the following well-known facts:

(1) That, with the above-mentioned exceptions, every man with typhoid fever was at the encampment and drank the river water. (2) That typhoid fever was present at the time in the city. (3) That the city is without a system of sewerage. (4) That it is a common sight to see the Mexicans washing clothing in the river and creek that flow through the city. (5) That these acequias flow through the yards of many ignorant people. (6) That the encampment was below the junction of all these water courses with the river. (7) That the city waterworks, which are at the head of the San Antonio River, are on grounds from which the public are excluded.

After a consideration of these data, together with the knowledge that not a case occurred among the light battery men who were present at the encampment, but forbidden to use any but the hydrant water, you will agree with me probably in attributing this sickness to the water taken from the river during the encampment with the State forces at the fair grounds.

Influenza.—The epidemic of this disease, the so-called grippe, was developed in Boston and New York during the last week of December, 1889, and thence it spread with few exceptions to our military stations during the course of January and February, 1890. The epidemic reached its height at a given place on an average of 12 days from its invasion

and lasted about 30 days. The average number of admissions among the white troops was 155.36, among the colored troops 286.58 per thousand of strength; average of the Army, 167.95. The average duration of each case was 5.9 days; six deaths resulted directly from the disease, five among the white and one among the colored men in a total of 4,070 cases. During the visitation from 5 to 90 per cent, average about 33 per cent, of each affected command suffered, but it prevailed as extensively among the camp attachés and in the neighboring civilian settlements as at the posts. The Department of Arizona had the largest admission rate from this cause, 294 per thousand, and of the posts Fort Grant in this department had the largest rate, 654; Fort Washakie, Wyo., and Fort Maginnis, Mont., had also large rates, 630 and 631 respectively. At a few of the stations the medical officers did not recognize the presence of this disease, as at Fort Schuyler, Allegheny Arsenal, Newport Barracks, Fort Thomas, and St. Francis Barracks in the Department of the East, at Jefferson Barracks, Mo., Fort McKinney, Wyo., Forts Pembina and Sully, Dak., Forts Reno, Brown, Davis, McIntosh, and camp at Eagle Pass, Texas, and Fort Gaston, Cal. At some of these stations the medical officer is positive in his assertion that no epidemic influence was felt. At Fort McKinney, for instance, Captain Suter reported that no case had occurred differing in any way from the ordinary pharyngeal and bronchial catarrhs always prevalent at his post during the winter. At Fort Davis the post surgeon gave emphasis to his exemption by attributing it to such causes as altitude, etc.; and at Fort Sidney, Nebr., the medical director called upon the post surgeon to justify his conclusions concerning the absence of an epidemic influenza by charting the curves of all catarrhal diseases of the air passages for the corresponding seasons of 1888–'89 and 1889–'90 and this chart he says must be accepted as supporting the reiterated opinion of an intelligent medical officer on the point at issue. Nevertheless it is possible that the disease may have visited some of the posts mentioned without leaving its mark upon the records, for I find Capt. P. R. Egan, at Fort McIntosh, remarking in February:

> During the past month an officer, on a hunting leave, returned to this post with a certificate from a neighboring physician that he was suffering from la grippe. The symptoms were those of gastro-intestinal catarrh and rachialgia. His convalescence was not especially protracted. No other member of his family was affected. In another household the father, who is subject to "bilious attacks," suffered from gastro-intestinal catarrh. This was followed by coryza and conjunctivitis. His convalescence was rapid. Two of his children suffered from naso-laryngeal catarrh soon afterwards. The previous month, however, all his five children were treated for similar catarrhs. In yet another family the mother was taken sick with severe chest pains, and catarrh of the respiratory mucous membrane extending to the larger bronchial tubes. Her recovery was somewhat protracted. Her husband suffered about the same time from coryza and supraorbital pain, but no other member of the family was attacked. Several of the enlisted men suffered from colds, but only one so severely as to require excuse from duty. In no case was there evidence of an epidemic influence. Whether these catarrhs were anything more than the ordinary colds due to the sudden changes of this climate and season is a matter of doubt. If, as claimed by the local physicians, they are due to a great wave of influenza passing round the world, then influenza on the Baltic, the Danube, and the Seine must be essentially different from influenza on the Rio Grande.

The noteworthy symptoms affecting the nervous system were frontal headache, lumbar pains, aching in the lower limbs, insomnia, and prostration. Nasal, laryngeal, pharyngeal, or bronchial catarrhs were essentials; and accelerated action of the heart was followed by depression. The temperature ranged from 100° F. to 104.6°, and in one case, with secondary pneumonia, to 105.8°. Anorexia, nausea, vomiting, and

constipation were generally present. The complications were bronchitis, pleurisy, pneumonia, inflammation of the middle ear, and erysipelas of the head. Relapses or recurrences were not uncommon. Convalescence was often protracted.

Early in the year, and while the details of the epidemic were fresh in memory, a call was made by this office for special reports from every military station; and that the reports might be susceptible of comparison one with the other certain points were presented for special investigation and report. Much labor was spent upon these reports by medical officers, but the investigation was unproductive. Two of our medical directors who showed special interest in the results of observations came to exactly opposite conclusions regarding the propagation of the disease. One held it proved by the progress of the epidemic through his department that the disease was spread by the diffusion of its germ through the atmosphere; and although it may be contagious, this is not the chief mode of the propagation. The existence of an atmospheric wave or cloud, so to speak, of microscopic germs he held to be no more impossible than the diffusion of smoke from burning forests over an immense extent of territory or the occasional migration of myriads of locusts darkening the sky and covering the earth. The other showing that the disease traveled westward notwithstanding a west wind and that its invasion was later in the season in proportion to the length of stage travel to reach the post, and that the more distant posts escaped the epidemic entirely, came to the conclusion that an epidemic wave was wholly inconsistent with the facts and that propagation could be explained only on the assumption of a personal contagion carried from place to place by rail or other means of personal transportation.

MALARIAL FEVERS.

The admission-rate of malarial diseases has fallen during the year to 92.93, as compared with 120 in 1889, and with 162.03, the annual average of the preceding decade; the number constantly sick, 2.79, is also an improvement on the rate of the preceding year, 3.25.

The cavalry suffered more from these fevers than the other arms of the service. Its rate was 128.22, the rate of the infantry a little below the average, of the artillery a little above, and the officers in all considerably less than the men. As regards age the highest rates were given by men of 20 to 24 years, 135.23, while officers of the same age gave only 50.85. The rates of the native Americans were about the same as the average of the Army; those of the Irish and Germans in the ranks were somewhat higher.

The record of Fort Brown, Tex., was much improved during the year. Instead of 1,676 admissions per thousand of strength, as in 1889, it had only 325.91, and instead of 38.58 of non-effectiveness, it had only 8.32. This alone does much to account for the lowering of the malarial rate of the Army. Seven posts had relatively more admissions and non-effectives than Fort Brown. Fort Sill, Okla., and Fort Clark, Tex., had the highest rates among the large posts, the former 754.55 admissions and 12.12 non-effective, the latter 451.14 and 18.38.

DIARRHŒAL DISEASES.

These diseases gave rise to an admission rate of 124.29 as compared with 118.40 during the previous year and 185.15 during the previous decade. The average number of days during which each case was

under treatment was 4.3 for diarrhœa and 14.6 for dysentery. They affected the enlisted men more than the officers, the cavalry, and particularly the artillery, more than the infantry; men from 20 to 29 more than those who were older. The native American had the average rate; all other nationalities had the rate smaller except the English, Irish, and Canadians. Fort Sam Houston, Tex., with an admission rate of 430.70, and a non-effective rate of 5.75, and Fort Sill, Okla., with 384.84 and 7.13, were the posts at which these diseases were most prevalent.

RHEUMATISM.

This constitutional affection gave an admission rate of 83.19 during the year, as compared with 93 during the previous year and with 110.73 during the previous decade. The non-effective rate was 4.05, as compared with 4.78 and 3.01, respectively, during the previous year and decade. The posts that had relatively the largest number of admissions were Fort Canby, Wash., Rock Island Arsenal, Ill., Forts Apache and Grant, Ariz., and Fort Washakie, Wyo., the rates ranging from 171.17 at the last to 222.22 at the first mentioned station. The posts with the largest number non-effective were Benicia Barracks, Cal., Rock Island Arsenal, Ill., Fort McHenry, Md., Fort Grant, Ariz., and Fort Snelling, Minn., the rates varying from 8.41 to 11.32.

VENEREAL DISEASES.

The admission rates were 72.02 for the white troops, 105.43 for the colored; total for the Army, 75.22, as compared with 84.66 during the previous year, and with 79.76 as the annual average of the previous decade. The non-effective rate was 4.86, as compared with 5.61 of the previous year, and the number of discharges 71 men, equivalent to a rate of 2.66 per thousand, was considerably better than the 3.52 of the year 1889.

The cavalry and infantry had less, the artillery more, than the average number of cases. The highest rates were found among the recruits, 191.93, and among men from 20 to 24 years of age, 143.15. The native American had a larger rate than men of any other nativity excepting the small French element in the Army.

The post that gave the highest rates was Columbus Barracks, Ohio: admissions, 380.46; non-effective, 24.74, and discharges, 41.83. Jefferson Barracks, Mo., gave 167.49, 10.31, and 17.24; Davids Island, New York, 105.99, 5.86, and no discharges. Of the 71 men discharged, 21 cases occurred at Columbus Barracks, Ohio, and 7 at Jefferson Barracks, Mo.

ALCOHOLISM.

The rates of admission were 44.45 for the white troops, 5.59 for the colored, equal to a total of 40.73 for the Army, as against 41.43 in 1889, and 56.68 the annual average of the previous decade.

The cavalry had the best rate, 20.44; the engineers by far the worst, 147.89; the infantry and artillery rates are nearly one-third higher than the average. Among the enlisted men drunkenness appears to increase with age. Thus the rate for men of 20 to 24 years is 13.30; 25 to 29, 25.52; 30 to 34, 47.55; 35 to 39, 86.13; 40 to 44, 111.36; 45 to 50, 103.02, and 50 to 54, 158.08.

The rate of the native American, 37.95, is under the average, as is also that of most men of Continental Europe; but the Irish rate, 89.54,

brings up the average. The absolute number of reported cases was 987, only 13 of which occurred among the colored troops; 5 ended fatally and 4 were discharged as unfit for service.

In the appendix will be found* a list of our military stations arranged in the order of the prevalence of alcoholism at each during the year. It is satisfactory to note that so many of the larger posts are at the lower end of the list.

PULMONARY CONSUMPTION.

The rates for this disease differed but little from those of 1889 or of the preceding decade: Admissions, 3.26, as compared with 3.32 and 3.55; deaths 0.71, as compared with 0.44 and 0.57; discharges, 1.57, as compared with 1.50 and 2.08. The absolute number of cases was 79, 11 of which were among the colored men; 42 were discharged; 19 died; average duration of treatment in each case, 92.5 days.

The admission rate was largest in the artillery, 4.94. It was largest among men between the ages of 20 and 24, and appeared to lessen in frequency with advancing age. The rate of the native American did not differ much from the average of the Army, but the rate of the Irish soldier, 4.91, was more than double that of the natives of Germany, 2.03.

The 79 cases were taken on sick report at sixty different posts. The largest number at any one post was 4, at Fort Robinson, Nebr., and at Fort Clark, Tex.

PNEUMONIA AND PLEURISY.

Ninety-six cases of pneumonia occurred during the year, of which 14 were fatal, as compared with 130 cases and 19 deaths in 1889, and with 181 cases and 39 deaths in 1888. The colored troops contributed 19 of the cases and 5 deaths. The average duration of treatment was 37.5 days.

The admission rate of the Army was 3.96 per thousand of strength, a little lower than this for the infantry, a little higher for the cavalry and artillery. Age did not appear to influence the liability to attack. Irishmen were relatively less frequently its victims than men of other nationalities. Twelve cases with 3 deaths were recorded at Fort Robinson, Nebr., 6 with 1 death at Columbus Barracks, Ohio; 5 with 1 death at Fort Leavenworth, Kans.; and 5 with no death at Fort Douglas, Utah. Six posts reported 3 cases each; ten, 2 cases each; and thirty, 1 case each.

Pleurisy caused 65 admissions, 2 deaths, and 3 discharges. Fort Robinson, Nebr., had 10 of these cases, all among colored men.

INJURIES.

The admission rate for injuries, 243.71, is much the same as that for 1889, 248.72, or of the decade, 245.67; but on account of the casualties in the Sioux campaign the death-rate was higher than usual, 3.45, as compared with 2.38 in the previous year and 3.25, the average of the decade.

Of the 243.71 admissions per thousand of strength about one-half resulted from *sprains* and *contusions*, and one-fourth from *cuts* and *lacerations*.

Heatstroke occasioned a total of 73 admissions, and *frostbite* 60; 2 of

* Page 105.

the former and 1 of the latter were afterward discharged for disability; no death was recorded from either of these causes. There were 62 *dislocations* with 3 consequent discharges, and 166 *fractures* with 2 deaths and 17 discharges.

One hundred and sixteen cases of *gunshot wound* were entered on the reports, resulting in 7 deaths and 20 discharges; but in addition there were 54 cases in which death was instantaneous or followed so soon after receipt of the injury that the men were not taken on sick report. The number of these casualties was therefore 170, of which 2 with no deaths, occurred during the firing of salutes; 10 with no death during the reloading of cartridges; 6 with no death at target practice; 10 with no death while hunting; 23 with 7 deaths in personal encounters; 35 with 6 deaths by accident; 15, all fatal, by suicide, and 69 with 33 deaths in the fight with Indians near Pine Ridge Agency.

Twelve deaths from *drowning* were reported; of these 3 occurred while boating, 6 while bathing, 2 by other accidents, 1 while trying to desert, and 1 in the effort to save other lives.

Sixteen cases of *suicide* were reported during the year: 1 officer and 15 enlisted men; infantry, 13; cavalry, 2, and general service, 1. Gunshot was the means selected in 15 cases, and poison in 1 case; in 6 the cause was alcoholism, in 3 temporary insanity, in 2 despondency, in 1 distaste for the service, in 1 nervous depression following influenza, in 3 uncertain. The nationalities were, United States, 9; German, 2; Norwegian, 2; and Irish, Scotch, and Canadian, 1 each. The ages 23, 26, 32, and 34, 2 each; 25, 27, 28, 29, 30, 31, 33, and 39, 1 each. Four occurred in May, 3 in February, 2 each in January and November, and 1 each in April, June, July, September, and December. Three occurred at Vancouver Barracks, Wash., and 1 each at Fort Apache, Ariz.; Fort Wingate, N. Mex.; San Antonio, Tex.; Fort Reno, Okla.; Fort Gibson, Ind. T.; Fort Lewis, Colo.; Fort Niobrara, Nebr.; Fort Riley, Kans.; Camp Poplar River, Mont.; Fort Sully, S. Dak.; Fort Snelling, Minn.; Columbus Barracks, Ohio; and Fort Niagara, N. Y.

Three attempted suicides were reported, all enlisted men, 1 infantry, 1 cavalry, and 1 artillery. Alcoholism is reported as the cause in one, insanity in one; in the third the cause is not stated. The attempt was made by poison in one case, and by cutting the throat in the others. The nationalities were American 2 and Irish 1. The ages 22, 27, and 40. The cases occurred at Washington Barracks, D. C.; Fort Leavenworth, Kans.; and Presidio of San Francisco, Cal. The months were March, July, and August.

The total suicides and attempts at suicide numbered 19; 3 in the first year of service, 5 in the second, 4 in the third, 3 in the sixth, 2 in seventh, and 1 each in the tenth and twelfth. These suicides constituted 0.66 per thousand of the strength as compared with 0.77 in 1889, and with 0.76 as the annual average of the decade 1879–1888. The rate of suicide in the army of Austria-Hungary in 1889 was 1.51; of the Belgian army for the same year, 0.25; of the British army in 1888, 0.18; and of the Prussian army in 1887–'88, 0.53.

INFLUENCE OF SEASON ON THE PREVALENCE OF DISEASE.

The admission rate of the Army for all diseases and injuries for the year was 1,384.25 per thousand of strength, equal to an average monthly rate of 115.35. Viewing the admissions by months an unusual augmentation of the rate is found in January, 246.20, the result of the epidemic of influenza then prevailing. The rate fell in February to 111.29, and

continued to fall until the minimum of 91.94 was reached in April, after which it gradually rose to a maximum of 125 in July, with a subsequent fall to 93.38 in November, and 93.91 in December. There was little variation in the monthly rates for alcoholism, venereal diseases, and injuries, so that when these are withdrawn from the rates for disease, in general, the curves of seasonal variation are but little changed from the positions already stated. Unusually high, 219.33, in January; falling suddenly in February, and gradually afterwards to a minimum of 61.88 in April, rising subsequently to a maximum of 88.11 in July, and then falling gradually to 64.63 and 63.45 in November and December.

The rate of non-effectiveness for all diseases followed somewhat similar curves, with the exception that its minimum was not reached until May, and its summer maximum was more protracted and fell more slowly in the later months of the year. The minimum rate for alcoholism, venereal diseases, and injuries was 12.22 in June, the maximum 14.16, in March. With so little variation in the rate from month to month it is evident that the withdrawal of these rates from those yielded by all diseases and injuries would not materially alter the seasonal curves of the latter. (See table X.*)

SUMMER ENCAMPMENTS.

Reports were received concerning the condition of certain regiments of the Pennsylvania, Iowa, and Michigan National Guard during their summer encampments.

Maj. Charles R. Greenleaf reported his attendance at the encampment of the Pennsylvania National Guard at Mount Gretna, Pa., July 19–25, 1890, where 8,429 troops were under canvas. The general police of camp was well conducted, but many of the interiors were untidy and several of the latrines neglected and offensive. The advantages of ditching their tents as a protection against rain had to be suggested. The food as a rule was restricted to the army ration, but in its preparation the plan adopted was one worthy of consideration by other troops than the Pennsylvania National Guard, as conducive not only to economy of the ration, but to excellent results in the preparation for the table. Each company hired one or more cooks known to the officers and men to be competent in their calling, and the advantages of this, according to Maj. Greenleaf, were apparent not only in the contentment of the men with their meals, but in their freedom from those disorders of the digestive system that are usually so frequent in such camps when the cooking is intrusted to incompetent men. The hospital corps lacked organization for field service, and the medical officers were equally lacking in the experience needful to perfect their organization. Advantage should have been taken of the aggregation of troops at Mount Gretna to establish a brigade or division hospital, such as would have been necessary in active warfare, but the short duration of the encampment did not permit this radical change from the regimental system, which was the only one with which these medical officers were familiar.

Maj. R. H. White reported his field service at Mount Gretna, Pa., with a command of 381 United States troops. A hospital was established July 15, and from that date to July 31 the average number sick daily was 9.8, or 2½ per cent of the strength. The daily mean temperature was 59.44° F., the minimum 46°, and the maximum 86°; rain fell

* Page 90.

on seven of the seventeen days. On July 21 the members of the hospital corps under Steward J. H. Grant gave an illustrative drill, which was attended by the medical officers and hospital corps of the division of National Guard, and next day these officers assembled at the hospital to examine its arrangements, furniture, and management.

Maj. Hartsuff reported his services with troops of the Iowa National Guard at Cedar Rapids and Des Moines, Iowa. Headquarters, band and four companies of the Second United States Infantry encamped near the former city on August 3, where they were immediately joined by the First Iowa National Guard, clothed, armed, and equipped like United States infantry.

Sick call was sounded regularly every day, but at first no attention was given to it; the sick went to the surgeon's tent at all hours. The companies had no company sick books, and the surgeon no morning-report book; indeed, neither of the doctors had ever seen or heard of a blank book, or a blank of any kind, pertaining to the medical department. A few medicines were purchased at a drug store for the occasion; no panniers of any kind and no instruments were provided. The surgeon had never made an inspection of the camp, and had never made a report of any kind, except at the breaking of camp, when a short report as to number of sick only was made to the brigade surgeon. No examination of any kind to enter the service, either of officers or men, has ever been required or made; and of the rank and file at least one-third are discharged, at their own request, each year. Judging from appearances, a majority of the enlisted men would be rejected on physical examination. The medical officers are appointed by the colonels, and, as the colonels are frequently changed (the First Regiment having had three within one year), the medical officers' tenure of office is very precarious.

The five days of camp duty required by law in each year having expired, the First Regiment broke camp on August 10, and next day the Fourth Regiment came by companies from various localities and occupied the recently vacated ground. Only one medical officer was present with this regiment and his only knowledge of his duties was to prescribe for any of the men whenever, during the twenty-four hours of each day, they came to him for treatment. At the close of the five days the Fourth Regiment broke into companies and started for home and the United States troops proceeded to Des Moines, where, on the 23d, they were joined by the Second Battalion of the Second United States Infantry and by three regiments of the Iowa National Guard. Heavy rains fell during the term of the encampment and interfered with the progress of military operations. With few exceptions the medical officers of the Iowa brigade had never been in camp before and their knowledge of their duties, as with the officers of the First and Fourth Regiments, appeared to be restricted to prescribing for such sick men as came to them and purchasing such medicines as might be required. The surgeon-general of the State and his regimental medical officers were greatly interested in the more extended views of the duties of an army medical officer presented by Maj. Hartsuff, and it is believed that good was effected by this contact of the Medical Department of the Army with that of the Iowa National Guard.

Capt. F. V. Walker accompanied the Second Battalion, Second United States Infantry, to Spring Lake, Iowa, and endeavored to give some idea of their duties to the medical officers of the Sixth Iowa encamped at that place. In an interesting report he has given, with considerable attention to details, his experiences with this regiment, which were essentially similar to those of Maj. Hartsuff with the First and Fourth regiments. Capt. Walker's programme was to read a paper on the organization of the Medical Department, U. S. Army, and the duties of its medical officers, to explain the use of the blank forms of the Department, to conduct a series of drills, and to institute a short course of

lectures on first aid in emergencies, but bad weather and military duties prevented him from carrying out his plans. His paper is an excellent résumé of the subject, and was worthy of a larger audience. From Spring Lake the battalion proceeded to the brigade encampment at Des Moines, where Capt. Walker reported to Maj. Hartsuff. His report shows how much more earnestness is needful on the part of the medical officers of the Iowa National Guard before any results of value to the state or country can be expected. The character of his remarks will excuse a rather long citation:

As early as possible Maj. Hartsuff, through the surgeon-general, F. H. Little, assembled the medical officers of the Iowa National Guard, and addressed them at length on the subject of their duties as medical officers. He impressed upon them the importance of a thorough acquaintance with these; he spoke of the necessity for efficient organization and methodical work; he showed them our blanks and forms of reports, and urged them to prepare and adopt something similar, but adapted to their needs; he called attention to the neglect, which was so apparent, of the proper policing of camps, and advised them to make regular inspections and report upon all violations of sanitary rules. In fact, he touched upon many important subjects, with the idea and hope of stimulating and exciting them to proper action.

They expressed the liveliest interest in Dr. Hartsuff's remarks, and apparently were very grateful to him for outlining their duties for them, and for the hints he gave.

The doctor offered to have an exhibition drill of the company bearers in order that they might gain some idea as to its conduct. They accepted, and the next day I, under Dr. Hartsuff's orders, conducted a drill in their presence.

The effect of the doctor's advice was not immediately apparent. I do not think the blanks were looked at a second time by any; nor do I think inspections were conducted any more diligently. The surgeon-general returned to his home, armed with a set of the blanks and forms, and notes of the books, etc., he was advised to make requisition for. He expressed the determination to make a study of the subject with the view to organize a corps and to establish some system. He is a young man and apparently an energetic one, and the chances are that before the next encampment he will have accomplished this, and be able then to test the practicability of his scheme.

I could not help doubting the earnestness of the medical gentlemen of the national guard. It appeared to me that they regarded the annual encampment in the light of a picnic—an "outing," which offers them relaxation from work, and which should be spent in frolic and festivity. Indeed, I do not think this idea, this feeling, is confined to the medical officers, but is shared by those of the line, in fact, by almost every man in uniform. There is everything to foster such a feeling, and it will exist so long as these encampments are conducted as they now are. Certainly this is not the idea of the State. She does not intend that the annual meetings of her soldiery should be for fun or frolic, she expects a substantial return for her money, but she does not get it. The men arrive on the ground and enter tents already pitched for them; they drill a little; they do a little guard duty, but they are on dress parade most of the time, and are fed by meals prepared by hired help, and cooked on modern ranges or stoves, and finally march off the ground, leaving the tents still standing, and return to their firesides with wonderful tales of how they "roughed" it in camp. What have they learned? How much could have been taught them by other methods in the time they have wasted? These are questions which are beyond my province to discuss.

From this report it must be inferred that everything has yet to be done toward effecting an efficient organization and establishing system in the medical department of the Iowa National Guard. In a letter I received recently from the adjutant-general of Iowa, he said that it was contemplated to establish a hospital corps in the medical department of the State service "prescribing thorough and systematic instruction in that duty." It appears to me that it would be wiser first to organize a medical department. At present the organization consists of a surgeon-general, who receives his appointment from the governor; of regimental surgeons and assistant surgeons who are practically appointed by the colonels of the regiments, and regimental hospital stewards. The power of the surgeon-general is vague and undefined. He receives no reports (or did not before this season) from his subordinates, who, indeed, rather recognize their colonels as their chiefs than him. In my opinion this regimental organization should be discontinued and a State medical department organized, with the surgeon-general at its head, who shall have charge of the administrative duties and who shall not be removed except for causes outside of politics. Then there should be a corps of medical men, surgeons and assistant surgeons, who should be selected only after a sufficient test of their abilities (and then it would soon

become a desirable distinction to be enrolled in the State service). And afterward a hospital corps could be organized. The medical department of the State forces should be as distinct and separate as is the Medical Department of the U. S. Army.

I must make one more suggestion before closing this report. If it is contemplated that in future encampments of the United States troops with the National Guard the medical officers shall conduct litter and bearer drill, I think it would be wise to send along at least enough men of the Hospital Corps to form two sets of fours. The time of the men of the companies is so taken up by the various exercises that they are seldom available when the surgeon would like to have them. Then, too, members of the Hospital Corps are naturally more efficient in these particular drills as they take decidedly more interest in them, than the company bearers. In Des Moines I found that the men had not been drilled at all according to the system lately recommended by the Leavenworth Board, and even in the old method some of them were newly appointed, and consequently unfamiliar with the drill.

Maj. J. V. Lauderdale accompanied headquarters, band, and four companies Nineteenth United States Infantry from Fort Wayne to Gognac Lake, Michigan, where the Michigan National Guard was found encamped.

During the hours that were devoted to drill by the regulars the time was occupied by me with drilling the men of the corps in the system contained in the report of the Board convened at Fort Leavenworth June, 1890. The system of litter drill followed by the State troops was that contained in the manual edited by Surg. Smart. I spent some time in calling their attention to modifications of the above drill given in the report above referred to.

I found them provided with a regulation ambulance issued to the governor from the United States medical purveying depot, and they were making good and legitimate use of it in all their field exercises.

There seemed to be an earnest desire on the part of the medical officers of the State troops to carry out all the exercises pertaining to their department to the minutest detail in accordance with Army Regulations.

It may be here stated that the Hospital Corps has now been provided with a drill manual in which is embodied the matured views and experience of the medical officers of the Army. When the corps was organized a provisional manual was issued with full permission to medical officers to deviate from its teachings in any way that would tend to the welfare of the patient. Later a board of experienced officers was convened at Fort Leavenworth, Kans., to elaborate from the mass of criticism on the provisional manual a drill system to take its place. This board made haste slowly. It sent a copy of the report which it purposed rendering to every medical officer of the Army with a request that the system be tried and freely criticized. Many reports were received during the year and the *Drill Manual for the Hospital Corps*, as now authoritatively issued, is the original report of the board modified by a careful consideration of the suggestions of the most active minds of the medical department.

OPERATIONS AGAINST THE SIOUX INDIANS.

On November 20, 1890, the conditions among the Sioux Indians at Pine Ridge and Rosebud Agencies, S. Dak., were such that the presence of a force of United States troops became imperative. To meet the possibilities of the occasion, Medical Director Bache, Department of the Platte, shipped to Pine Ridge the tentage and materials for a hospital of 25 beds; but as the situation at the Rosebud Agency became pacific, the surgical preparations were concentrated at Pine Ridge, where a command of 77 officers and 1,300 enlisted men had been aggregated. The following citations are from Dr. Bache's report:

The medical organization consisted of a division field hospital, Maj. A. Hartsuff, surgeon in charge; Capt. C. B. Ewing, assistant surgeon, 2 non-commissioned officers, and 10 privates of the Hospital Corps. The tentage had been increased with a final capacity for 60 patients, and the equipment was considered fairly complete.

With the two battalions of the Seventh Cavalry were 2 medical officers, 1 hospital steward, and 4 privates of the Hospital Corps, 2 ambulances; Light Battery E was attached for medical service. With battalion of the Ninth Cavalry, 1 medical officer, 1 acting steward, and 5 privates, 1 ambulance, the Indian scouts were attached for medical service.

The force operating to the north and west on the line of the Cheyenne River and near Oelrichs, S. Dak., consisted of the Sixth Cavalry, two troops of the Eighth Cavalry, a company of Cheyenne scouts, and a battalion of cavalry (four troops) from Fort Leavenworth. This line was under the direction of the division commander, then at Rapid City, S. Dak., and its medical supervision rested with the Department of Dakota. The First Infantry, from California, lay at Fort Niobrara, and the garrisons at Forts D. A. Russell and Douglas, under constant preliminary orders, had not been called. With the First Infantry were 1 medical officer, 1 hospital steward, and 3 privates of the Hospital Corps; no ambulance. The medical effective force from Forts D. A. Russell and Douglas had been fixed by instructions December 2—1 medical officer, 1 non-commissioned officer, and 5 privates from each—and 1 ambulance. Provision was to be made for treating in the regimental field hospitals 3 per cent of the command.

During the month of December, while preparations for an active campaign were in progress, it looked as if an amicable settlement would be ultimately effected; but on the morning of the 29th an unexpected and severe engagement took place between Colonel Forsyth's command, consisting of eight troops of the Seventh Cavalry, Light Battery E, First Artillery, and Company A, Indian scouts, and a band of 400 hostiles under the Sioux Chief, Big Foot, at Wounded Knee Creek, 16 miles from Pine Ridge. One United States officer and 29 men were killed and 2 officers and 29 men wounded. The latter, with 28 wounded Indians, chiefly women and children, reached the agency at 9:30 p. m., where they were at once provided for. The division field hospital received the officers, and men, while the Indians were treated in tents and in a small church tendered for hospital use by the Protestant Episcopal mission. A skirmish that night and another the following day added 1 officer and 7 enlisted men to the inmates of the hospital.

The anxiety of the medical department at this time lay not in caring for the wounded already on hand, but in being prepared for what seemed to be imminent, a protracted campaign against 4,000 Indians, who had an effective war force of 600 to 800 men. To meet the possibilities of the situation the medical director telegraphed for more medical officers, members of the Hospital Corps, and medical supplies, all of which were promptly furnished by this office. The force thus placed at his disposal enabled him to provide an effective service with each of the military commands, including his field hospital, and to organize a company of the Hospital Corps, consisting of 1 medical officer, 2 non-commissioned officers, and 19 privates, from which could be drawn a working force for any emergency that might occur.

As soon as all operative proceedings had been finished in the hospital and the wounded were in condition to bear transportation, it was determined to relieve the field hospital by sending them for further treatment to their respective stations. Accordingly, on January 4, 2 men were sent to Fort Robinson, Nebr.; 6 to Fort Omaha, Nebr.; and 21 to Fort Riley, Kans. The transportation was by ambulance, 26 miles, to Rushville, and thence to destination by tourist sleeper on the railroad.

The occupancy of the field hospital on the morning of January 4 was 46, on the 5th, 18; and it received no more casualties after this. In addition to the resources already enumerated several large dormitories of the Ogalalla school at the agency were immediately available and supplied with beds and bedding; and an offer was made on the part of the executive board of the Soldiers' Home at Hot Springs, S. Dak., of two-thirds of the then new and completely equipped building, the estimated

capacity of which available portion was 200 beds. The estimate of the medical director was that there were under immediate control at the agency 150 beds, at Forts Robinson and Niobrara 40 each, and the contingent of 200 at the Hot Springs, should the campaign be severe and protracted.

There was, however, no call for these extra resources, for the hostile Indians, after a period of doubt and hesitation, came into camp and surrendered their arms; after which the duty of the medical department was to return without unnecessary delay to its ante-bellum stations. Commenting on the health of the command, Lieutenant-Colonel Bache reports:

The field hospital of the Seventh Cavalry, under Capt. John Van R. Hoff, assistant surgeon, was a type of satisfactory method and completeness, and an example to which I feel safe in referring other medical officers for study and visible proof of efficiency.

The wounds of the Indians were mostly severe and difficult to heal, as all capital operations were refused, notwithstanding repeated explanation and urging through missionaries, interpreters, and friends. The simplest handling was at first resisted or met with suspicion. In cases of extensive injury to the large bones or joints septic fever came sooner or later, and finally death.

Colonel Bache commends for their efficiency the staff of the field hospital, the two medical officers in charge of the Indian wounded, and those on duty with the Seventh and Ninth Cavalry.

The non-commissioned officers and privates of the Hospital Corps were an efficient and valuable body of men. The officers to whom they were assigned for duty reported them as well trained and untiring. They were hastily gathered together from many widely separated posts and without time to fuse together in their new positions, making their readiness for emergencies more conspicuous. I can testify to their faithful service in nursing the Indian wounded under every disadvantage, and the testimony of Captain Hoff as to the conduct of his men under a hot fire is such as to satisfy those to whom the discipline, courage, and training of the corps is a fixed purpose worthy of every encouragement.

The testimony of Captain Hoff, to which Colonel Bache refers, is as follows:

I have heretofore had the honor to submit many reports and suggestions regarding the Hospital Corps under various conditions of service, in post, camp, and field, but it was only recently I had an opportunity to see its working under the crucial test of battle. It is but faint praise to say that it more than met my expectations. My detachment was absurdly small in proportion to the amount of work required in the engagements at Wounded Knee and White Clay. In the first named, Hospital Steward Pollak, Privates Costner and Girdwood, Hospital Corps (the two ambulances, unfortunately, for want of my own men were driven by citizens), constituted the detachment. Steward Pollak was killed early in the fight on December 29 (one ambulance driver ran away with his ambulance, but ultimately returned and thereafter both did fair work), leaving Privates Costner and Girdwood alone to meet their part of the requirements of a bloody battle. Their work was skillfully, tenderly, courageously done, beyond all praise and worthy of official recognition. When the stress of battle was passed their efforts were supplemented by the company bearers whose training made this assistance of great value. This is borne out by the statements of many line officers, and it may be safely said that hereafter, in this command at least, there will be no skepticism as to the value of "first aid" and bearer instruction.

The next day, in the White Clay affair, while I was attending to the wounded on the skirmish line, the position of the ambulances was enfiladed by a sharp fire. One of the ambulances was partially wrecked by being overrun by the led horses, and both were incontinently abandoned by their citizen drivers. An officer (Lieutenant Mann) having been reported wounded on the skirmish line, Private Costner, of the hospital corps, though no driver, jumped upon the box of the remaining ambulance and drove beyond the withdrawing skirmish line to the wounded officer, who was picked up and carried to a place of safety. Two of the ambulance mules were

wounded. Private Girdwood accompanied the ambulance and assisted in the loading. On the same day Girdwood (mounted) nonchalantly brought my horse to me through a sharp fire as the line was about to fall back. I mention these circumstances to show the quality of courage which actuated these men, courage not born of strife, but of a high sense of duty, inherent indeed, but developed by the system of military discipline obtaining in my detachment, without which I do not believe such results could have been reached.

Col. Bache refers to the numerical inadequacy of the Hospital Corps for field service, when based upon an allowance of so many men to each post.

The Seventh Regiment of United States Cavalry, 8 troops, numbering over 500 men, and maneuvered as 2 battalions, entered the field with 2 medical officers, 1 hospital steward, and 4 privates of the Hospital Corps. It carried 2 ambulances, for which civilian teamsters were supplied. It left its camp at Pine Ridge Agency as battalions December 26 and December 28, uniting at Wounded Knee, 16 miles distant, on the evening of the latter day; both of its medical officers were present, the steward, and 2 privates, both ambulances. The remaining 2 privates were left in camp in charge of the hospital containing some sick and the property. This regiment was on the morning of the 29th suddenly involved in a severe engagement with the Indians, losing 30 killed, and having on its hands 36 of its own wounded, besides a burden of some 30 severely wounded Indians, chiefly women and children. The hospital steward was killed early in the action, and the hired drivers, although good men, were frightened almost to the point of abandoning their teams and leaving the field. The primary work with this mass of wounded fell, therefore, upon the 2 medical officers and 2 privates of the corps, reënforced later by the services of the company bearers, when these could be spared from the fighting line. That the work was done at all, that it was well done, was due simply to the ability of the chief medical officer, Capt. Hoff, and to the instinct of devotion to duty to which his whole training and example had compelled his men. Had that regiment been operating at a distance from support or organized assistance, instead of having a receiving hospital within easy reach, it is not hard to cast the sum of its suffering. I cite this regiment because the stress of fight fell upon it, and because its medical provision and organization was a model of thoughtful work; and yet, through the vice of our present system of controlling post influence, it failed of three-fifths of its medical effective, and had its hospital detachment been on the boxes of its ambulances it would have been left with no force whatever.

To supply this command in southern Dakota men had to be detached from twenty different posts, from Fort Canby, Wash., to Rhode Island, and it is readily seen that if instead of having to meet the needs of a field command such as that at Pine Ridge Agency the Medical Department had been called upon to meet those of a command four or five times as large it would have failed assuredly. To meet emergencies of this character the department should have a reserve force, such as Col. Bache formed when he organized his Hospital Corps company. These reserve companies should be stationed at some of the largest posts, and each should be practically a school in which hospital corps drill, nursing, minor surgery, and first aid in emergencies should be taught. Recruits should go to these companies for instruction, and the needs of the Army for sanitary soldiers should be supplied from them. An effort is now being made to carry these views into practical effect.

The summer camps and field maneuvers of the last year or two, and notably the campaign against the discontented Sioux Indians, showed most distinctly the lack of provision in our Army for mounting those members of the Hospital Corps that are required by law to be mounted. At all posts and in all places where the law contemplates that any member or the whole of a detachment should be mounted, the necessary horses should always be there, as much the responsibility of the senior medical officer as the horses of the cavalry troop are the care of the troop commander. They should be stabled and cared for by the men of the detachment, and exercised and trained under the direction of the medical officer. It will be a certain increase of expense and an exten-

sion of work, but without this absolute provision and control the Medical Department can never be able to give thorough satisfaction in the field. Col. Bache's remarks on this subject fully sustain this statement:

I have already briefly stated in narrative my efforts to procure mounts for such members of the hospital corps as are by regulation and antecedent military propriety required to be mounted. These efforts were fruitless and mortifying. It was not impossible to mount scouts, messengers, artists, and civil topographers; to draw superfluous tentage and baggage beyond all allowance, but it was impossible to divert the animals employed in these ways to a logical, military, and exacting purpose. The place of the ambulance is with the marching column, whether of foot troops or mounted. Wherever wheels can keep pace with the command, the ambulance should go; but the ambulance should not serve as a transport for the detachment of the hospital corps. You need it light and unincumbered for ready following. You need to spare every pound of draft. The spectacle of an ambulance making 45 miles in nine hours with cavalry, and loaded, as it were, to the water line, with a hospital detachment, is not exalting, and it is not military. Chance mounts are of but scanty use, they are uncertain; for every man dismounted there may be a horse killed or disabled. Your men are not used to their horses, unused to the saddle, and their security and readiness are by so much diminished. To have your mounted steward and orderly or whole mounted detachment efficient, you should have the men familiar with their animals, accustomed to their care, intelligent of their needs and capacity. In other words, mounted detachments should always be mounted, for peace and therefore for war; in garrison and therefore for the field. Here, as in other ways, our weights and measures for post administration have sealed efficiency of equipment to the point of vanishing. Compromises have been suggested more or less effective. To mount the detachment, or so many as can be mounted, upon the draft animals of the ambulance, as the cannoneers of the horse artillery are mounted. The objection to this is, first, that in garrison they are not under your absolute control, but may be, and probably are, used for various purposes; your men are therefore unfamiliar with their individual mounts and the animals are not fitted for the saddle; second, that it does not provide for your steward, for your orderly, nor for any separate flexibility; and third, that if wheels have to be left and only packs taken, while the general transportation still follows slowly, your men are dismounted at a critical time or left behind.

To hire mounts is another expedient, unwise, expensive, and frequently prohibitory. The cost is sometimes excessive, from $2 to $3 per day for each animal, the minimum being 40 cents per day. Again, your men have no intelligent knowledge of their animals, and with but temporary charge there would be but limited interest, care, and acquired training.

If the sphere of the hospital detachment were limited to the actual ground in which the ambulance could operate, that is, if it were like a hook-and-ladder company, then to seat the men of the one as we seat men of the other, on their apparatus, would be so far logical and operative: but if you still require the fire to be suppressed and lives saved when you leave both transport and apparatus in the rear, it is always absurd, and will sometime be critically disastrous.

SURGICAL OPERATIONS.

During the year the medical department of the Army reported 204 surgical operations, 71 of which were necessitated by injuries and 133 by disease. The number, character, and results of these are shown in the following statement:

Nature of operation.	Disease or injury.	Total.	Recovery.	Died	Remarks.
Removal of tumors		**18**			
Enucleation	Sebaceous, 7; encysted, 2; fibrous, 3; lipoma, 5; papilloma, 1.	18	18	.....	Face, 2; neck, 8; back, 2; chest, 1; abdomen, 1; hand, 4.
Removal of foreign bodies		**4**			
Bullets and shot	Shot wounds	4	4	.....	Foot, 1; buttock, 1; chest, 1; arm, 1.
Opening of abscesses		**3**			
Incision	Submaxillary, 1; cervical, 1; perityphlitic, 1.	3	3	.....	Face, 1; back, 1; abdomen, 1.

Number, character, and results of surgical operations—Continued.

Nature of operation.	Disease or injury.	Total.	Recovery.	Died.	Remarks.
Operations on the eye		**3**			
For pterygium		1	1	.....	Extirpation.
Cataract		1	1	.....	
Enucleation	Gonorrhœa ophthalmia.	1	1	.....	
Operations on the ear		**1**			
Paracentesis	Inflammation	1	1	.....	Middle ear.
Operations on the nose		**2**			
Snoring	Nasal polypus, 1; nasal catarrh, 1.	2	2	.....	
Operations on the mouth		**1**		.....	
Excision	Tonsillitis	1	1	.....	
Operations on arteries		**2**			
Ligation	Puncture, 1	1	1	.....	Radial, 1; ulnar, 1.
	Laceration, 1	1	1	.....	
Operations on veins		**1**			
For varicocele		1	1		
Operations on nerves		**2**			
Excision	Neuralgia	2	2	.....	Neuroma.
Operations on the respiratory organs.		**4**			
Tracheotomy	Diphtheria, 1; asphyxia, 1.	2	1	1	
Paracentesis	Pleurisy	2	2	.....	
Operations on the digestive organs.		**32**			
Laparotomy		1	1	.....	
For hernia		2	2	.....	
For fistula in ano		10	10	.....	Incision, 8; ligation, 2.
Hemorrhoids		18	18	.....	Ligation, 13; excision, 1; cautery, 3; dilatation, 1.
Paracentesis abdominis		1	1	.....	
Operations on the urinary organs.		**16**			
For stricture, urethral dilatation.	Gonorrhœal	1	1	.....	
Internal urethrotomy	Gonorrhœa	15	15	.....	
Operations on the generative organs.		**15**			
For phimosis	Gonorrhœal, 2; syphilitic, 3; congenital, 2; not stated, 3.	10	.....	.....	Circumcision, 10.
Balanitis	Gonorrhœal	1	1	.....	Circumcision.
Hydrocele		3	3	.....	Tapping, 2; incision, 1.
Testicle	Orchitis	1	1	.....	Castration.
Operations on bones		**6**			
Removal of portions	Fracture, 1; disease 1	2	2	.....	Skull, 1; finger, 1.
Trephining	Fracture	2	1	1	Parietal.
Excision, elbow	Shot wound	1	1	.....	Primary.
Suture	United fracture	1	1	.....	Tibia.
Operations on joints		**24**			
Reduction of dislocation		24	24	.....	Shoulder, 15; elbow, 7; wrist, 1; knee, 1.
Operations on limbs		**35**			
Amputation for injury		34	.....	.....	
Arm	Shot wound	1	.....	*a*1	Intermediary.
Forearm	....do	1	1	.....	Primary.
Across hand	Fracture	1	1	.....	Do.
Fingers	Shot, 8; injury, 12; frostbite, 2.	22	22	.....	Primary, 18; intermediary, 2; secondary, 2.
Thigh	Fracture	2	.....	*b*1	Primary.
Leg	Shot, 1; fracture, 3	4	4	.....	Primary, 1; intermediary, 1; secondary, 1.
Ankle joint	Frostbite	1	1	.....	Secondary.
Toes	Fracture, 1; frostbite, 1.	2	2	.....	Primary, 1; intermediary, 1.
Amputation for disease		1	.....	.....	
Part of hand	Ulcer	1	1	.....	
Operations on muscles, tendons, and fasciæ.		**3**			
For hammer toe		1	1	.....	
Scraping muscles	Sinuses	1	.....	*c*1	
Excision ganglion		1	.....	.....	
Operations on skin, etc		**13**			
Ingrowing nails		11	11	.....	
Skin grafting	Chronic ulcer	1	1	.....	Thigh.
Cicatrix	Scrofulous ulcer	1	1	.....	Excision.
Aggregate		201	.....	.....	

a Death from pyæmia. *b* Double amputation. *c* Death from asthma.

VACCINATIONS.

The total number of primary vaccinations reported was 1,224, of which 729, or 59.6 per cent, were successful; 556, with 374 successful, at the recruiting depots; and 668, with 355 successes, in the Army at large.

The revaccinations numbered 6,230. Of these 2,518 were at the depots and 3,712 in the Army at large; 875 of the former and 1,177 of the latter, or a total of 32.9 per cent, were successful.

Bovine virus was used in 1,105 primary cases, 681, or 61.6 per cent, successful; and in 5,396 revaccinations, with 1,854, or 34.4 per cent, satisfactory.

Humanized virus was used in 119 primary cases, 48, or 40.3 per cent, successful; and in 834 revaccinations, with 198 cases, or 23.8 per cent, satisfactory.

CIVILIANS ATTACHED TO OR WITH THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employés of the various departments, together with their families, and all persons not included in the personnel of the Army who are allowed to reside at military stations or accompany military commands. As shown by the consolidated reports of the departments, with a mean strength of 24,234 officers and enlisted men, there were constantly present during the year an average of 14,450 civilians, of whom 2,831 were adult males, 5,456 adult females, and 6,163 children.

The admissions to sick report for the year numbered, for the adult males, 2,637; deaths, 38; for the adult females, 7,121; deaths, 49; for the children, 6,979; deaths, 141, or an aggregate of 16,737 admissions and 228 deaths. The admission rates per 1,000 of strength were 931 for adult males, 1,305 for adult females, and 1,132 for children, or an average of 1,158; the death rate for adult males was 13, for adult females 9, for children 23, average 16. For the previous year the admission rate for adult males was 808, adult females 1,385, children 1,278, average 1,223: and the death rates 6, 8, and 20, average 13.

The deaths and their causes are here tabulated:

Diseases.	Adult males.	Adult females.	Children.	Total.
Specific febrile and infectious diseases	1	10	45	56
Constitutional	.....	5	14	19
Developmental	3	2	5	10
Nervous	3	2	11	16
Respiratory	16	19	19	54
Circulatory	3	2	3	8
Digestive	1	1	31	33
Peritonitis	.....	2	1	3
Urinary	2	.....	.....	2
Parturition and results	.....	2	.....	2
Total from disease	29	45	129	203
Total from injuries	8	3	12	23
Unknown	1	1	.....	2
Total from all causes	38	49	141	228

MARRIAGES AND BIRTHS.

On the consolidated reports there were noted during the year 52 marriages, of which 10 were of officers, 40 of enlisted men, and 2 of civilian attachés.

There were recorded also 488 births: male, 238; female, 250. Eighty-six were children of officers, 342 of enlisted men, and 60 of civilian employés. Besides these, 26 births were reported among the Indian prisoners at Mount Vernon Barracks—9 males and 17 females.

List of special reports received during the calendar year.

MEDICAL REPORTS.

Name.	Rank.	Report.
Appel, A. H	Acting assistant surgeon	Acute apendicitis with perforation of vermiform appendix; autopsy.
		Epidemic influenza at Fort D. A. Russell, Wyo.
Banister, W. B	Capt. and asst. surgeon	Epidemic influenza at Fort Grant, Ariz.
Brickett, G. E	Acting assistant surgeon	Epidemic influenza at Kennebec Arsenal, Me.
Bowles, S. W	Acting assistant surgeon	Case of nervous exhaustion.
Bradley, A. E	Lieut. and asst. surgeon	Death from phthisis.
Coe, A. H	Acting assistant surgeon	Epidemic influenza at Fort Missoula, Mont. Case of acute lobar pneumonia, treatment with calomel with remarkable result.
Cowdrey, S. G	Capt. and asst. surgeon	Case of smallpox. Recovery.
Corson, J. K	Major and surgeon	Otitis media: death.
		Epidemic influenza at Fort Sherman, Idaho.
Comegys, E. T	Capt. and asst. surgeon	Epidemic influenza at Fort Bayard, N. Mex.
Craig, G. G	Acting assistant surgeon	Autopsy; death from acute enteritis.
Ebert, R. G	Capt. and asst. surgeon	Operations of hospital corps in summer camp.
		Suggestions relative to the contents of the medical panniers.
Frick, A. P	Acting assistant surgeon	Vaccinations at Fort Selden, N. Mex.
		Epidemic influenza at Fort Selden, N. Mex.
Ferguson, J. B	Acting assistant surgeon	Thermograph in a case of remittent fever.
Forwood, W. H	Major and surgeon	Tertiary syphilis.
Fisher, W. W. R	Capt. and asst. surgeon	Epidemic of acute dysentery in camp on Tongue River, Mont.; suggests tents for sick be of some dark color.
		Pulmonary oedema successfully treated with fluid extract of jaborandi.
Gardner, E. F	Capt. and asst. surgeon	Cancer of the omentum.
Gibson, J. R	Major and surgeon	Death from phthisis.
		Typhoid fever with catarrhal pneumonia; death.
		Chronic inflammation of the bladder.
Girard, A. C	Major and surgeon	Aneurism of aorta.
Gorgas, W. C	Capt. and asst. surgeon	Rapid delivery necessitated by puerperal convulsions.
Gray, W. W	Capt. and asst. surgeon	Croupous pneumonia involving both lungs; death.
Harvey, P. F	Major and surgeon	Scarlet fever; remarkable susceptibility to the infection.
Haskins, H. S	Acting asst. surgeon	Death from meningeal hemorrhage.
Heizmann, C. L	Major and surgeon	Fever cases at Fort Sam Houston, Tex., 1889 and 1890.
		Clinical account, causes and treatment.
Horton, S. M	Major and surgeon	Autopsy, diffused aneurism descending aorta.
Holland, F. H	Acting assistant surgeon	Acute articular rheumatism affecting all the joints of arms and legs.
Heyl, A. B	Lieut. and asst. surgeon	Chronic endocarditis.
Jarvis, N. S	Lieut. and asst. surgeon	Miscarriage with difficult removal of placenta and tardy contraction of womb.
Kneedler, W. L	Capt. and asst. surgeon	Serous apoplexy.
		Epidemic of diphtheria at West Point N. Y.
Koerper, E. A	Major and surgeon	Influenza and capillary bronchitis; death.
Lauderdale, J. V	Major and surgeon	Pneumonia probably following an injury of the chest; recovery.
La Garde, L. A	Capt. and asst. surgeon	Typhoid fever at Fort Assinniboine, Mont., 1889.
		Appendicitis; recovery.
		Stricture, urethrotomy; recovery. Pelvic cellulitis; loparotomy; recovery.
Mason, C. F	Lieut. and asst. surgeon	Epidemic influenza at Fort Washakie, Wyo., 44 thermographs.
		Case of hemorrhage of the stomach with hæmaturia; recovery.
		Acute dysentery; recovery.
		Results obtained from the Erlich urinary test.
McCreery, Geo	Capt. and asst. surgeon	Thermograph in typhoid fever.
McElderry, H	Major and surgeon	Scarlet fever at West Point, N. Y.
McClellan, E	do	Death from chronic gastric catarrh.
Merrill, J. C	Capt. and asst. surgeon	Typhoid fever.
Morris, E. R	do	Epidemic influenza at Fort Shaw, Mont.
Moseley, E. R	do	Fevers at Fort Clark, Tex., 1889 and 1890.
		Remittent pernicious fever; death.
		Screw worms in the nose and head; death. Autopsy.
Norris, B	Colonel and surgeon	Pneumonia right lung; recovery.

List of special reports received during the calendar year—Continued.

MEDICAL REPORTS—Continued.

Name.	Rank.	Report.
O'Reilly, R. M	Major and surgeon	Aneurism of the thoracic aorta.
Perley, H. O	Capt. and asst. surgeon	Acute pleurisy, aspiration; recovery.
Pope, B. F	Major and surgeon	Typhoid fever and water supply at Whipple Barracks, Ariz.
Rafferty, O	Lieut. and asst. surgeon	Typhoid fever at Fort Sam Houston, Tex.
Robinson, S. Q	Capt. and asst. surgeon	Four cases of continued fever; quinine and Warburg's tincture without beneficial result. Thermographs.
Suter, W. N	Lieut. and asst. surgeon	Appendicitis; recovery.
Taylor, B. D	Capt. and asst. surgeon	Epidemic influenza at Fort Sill, Okl.
Tilton, H. R	Major and surgeon	Two reports on the epidemic of influenza at West Point, N. Y.
		Tænia saginata; treatment with extract of male fern.
Turrill, H. S	Capt. and asst. surgeon	Epidemic influenza at Fort Spokane, Wash.
Vickery, R. S	Major and surgeon	Aneurism of the aorta.
		Idiopathic tetany; sudden death.
		Pulmonary tuberculosis; death. Thermograph.
Waters, W. E	do	Acute pharyngitis, metastatic inflammation of both testicles; recovery.
		Autopsy, thorax and abdominal organs.
		Case of insanity.
Weirick, R. S	Acting assistant surgeon	Autopsy in a case of sudden death; cause not determined.
White, R. H	Major and surgeon	Acute dysentery. Thermograph.
		Thermograph in typhoid and remittent fever at Fort Myer, Va.
Wilcox, T. E	Capt. and asst. surgeon	Fevers at Camp George Crook, Nebr. Quinine without apparent influence on course of disease. Thermographs.
		Typhoid fever; recovery.
		Thermograph.
Winne, C. K	do	Continued fever. Thermograph.
		Thermograph in case of pneumonia.
Wolverton, W. D	Major and surgeon	Aneurism of the aorta.
Wood, M. W	Capt. and asst. surgeon	Influenza at Fort Randall, S. Dak.
		Rattlesnake poisoning and its antidote.
Woodruff, C. E	do	Vaccinations at Fort Gaston, Cal.
		Diseases of Northern California Indians.

SURGICAL REPORTS.

Banister, J. M	Capt. and asst. surgeon	Double rupture of the choroid.
		Melanotic sarcoma of the choroid.
		Case of drowning.
Corbusier, W. H	do	Stricture of urethra, external perineal urethrotomy; death.
DeLoffre, A. A	do	Traumatic tetanus, chloral; recovery.
		Opium poisoning; recovery.
		Tubercular orchitis; castration.
Dewey, F. S	Acting assistant surgeon	Shot wound, brain; fatal.
Fisher, W. W. R	Capt. and asst. surgeon	Empyema, incision, drainage; recovery.
France, J. M	Acting assistant surgeon	Gunshot wound, thigh; recovery.
Frick, E. B	Lieut. and asst. surgeon	Rattlesnake bite, injection permanganate of potash; tourniquet; recovery.
Gorgas, W. C	Capt. and asst. surgeon	Diphtheria, tracheotomy; death.
		Fracture of skull; fatal.
Gandy, C. W	do	Fracture of cervical vertebra; autopsy.
Glennan, J. D	Lieut. and asst. surgeon	Fracture of skull and spine.
Girard, J. B	Major and surgeon	Gunshot wound of elbow.
Gardner, W. H	do	Severe contused wound of scalp and results.
Harris, H. S. T	Capt. and asst. surgeon	Fracture of skull, trephining; death.
Hoff, J. Van R	do	Punctured wound perforating spleen; autopsy.
Johnson, R. W	do	Rupture of small intestine; autopsy.
La Garde, L. A	do	Abscess of liver, incision; recovery. Paranephritis, incision; recovery. Astigmatism.
Lippincott, H	Major and surgeon	Enlargement of inguinal glands.
Kimball, J. P	do	Shot wound of hand, amputation; recovery.
McCaw, W. D	Capt. and asst. surgeon	Death from hydrophobia.
Moseley, E. B	do	Death from lightning stroke.
Merrill, J. C	do	Fracture of scapula.
Poindexter, J. D	Lieut. and asst. surgeon	Gunshot wound of leg.
Shannon, W. C	Capt. and asst. surgeon	Death from poisoning by clove tea used as an abortifacient; autopsy.
		Suicide by laudanum.
		Shot wound of thigh.
		Rattlesnake bite, hypodermic spirits of ammonia; recovery.

List of special reports received during the calendar year—Continued.

SURGICAL REPORTS—Continued.

Name.	Rank.	Report.
Snyder, H. D	Lieut. and asst. surgeon..	Suicide, gunshot wound of skull; autopsy.
Sanderson, J. L	Acting assistant surgeon..	Gunshot wound of leg.
Sewall, C. A	do	Fracture of ribs.
Suter, W. N	Lieut. and asst. surgeon...	Autopsy in a case of death from rupture of pulmonary blood vessels following injury.
Taylor, B. D	Capt. and asst. surgeon ...	Death from opium poisoning.
		Stab wound of chest: autopsy.
Weirick, S. T	Acting assistant surgeon..	Shot wound of abdomen; death.
Wilcox, C	Lieut. and asst. surgeon...	Rapid recovery from effect of ether.
Wood, M. W	Capt. and asst. surgeon ...	Injuries to spine.

SANITARY CONDITION OF THE ARMY.

QUARTERS.

The quarters provided by the United States Government for its troops have been improved recently in two ways, by building and repair and by the abandonment of old and dilapidated structures or unhealthy localities. During the calendar year the garrisons were withdrawn from the following stations: Fort Klamath, Oregon, Fort Maginnis, Mont., in July; Fort Crawford, Colo., Fort Mojave, Ariz., and Fort Gibson, Ind. T., in September; Little Rock Barracks, Ark., Fort Pierre, Dak., Fort Elliott, Tex., Fort Bridger, Wyo., Fort Selden, N. Mex., and Fort McDowell, Ariz., in October; Fort Totten, Dak., and Fort Verde, Ariz., in December. At most of these the quarters were overcrowded and poorly ventilated, so that their abandonment has been a clear sanitary gain, and will probably show its influence in diminished sick rates hereafter.

From many posts the condition of the men's quarters is reported as satisfactory; and sanitary progress is manifested by such reports as that from Fort Hamilton, N. Y., which announces that in October the damp, moldy, and unventilated casemates, which for years past have been nurseries of consumption and rheumatism, had been vacated by all except the band, prisoners, and guard, and the troops moved into commodious barracks built on the open plain.

Nevertheless the reports for the year are by no means all satisfactory.

Overcrowding and its associated defective ventilation are the sanitary faults that are most frequently noted; but bad construction, inefficient means of heating, undrained and unventilated sites, with rotting woodwork, leaky roofs and general dilapidation are occasionally recorded, showing that although much has been accomplished of late years on behalf of the comfort and health of the soldier and the attachès of our military posts, we are far from being able to rest satisfied with present conditions. Dilapidation and insanitary construction are reported from Fort Union, N. Mex., Fort Omaha, Nebr., Fort Barrancas, Fla., Camp at Eagle Pass, Tex., and Boisé Barracks, Idaho, as follows:

Fort Union, N. Mex.—Quarters, dilapidated and leaky.

Fort Omaha, Nebr.—Dilapidated condition of nearly all the buildings at the post; same as heretofore. As the post will probably be occupied for years, all the quarters should be repaired.

Fort Barrancas, Fla.—The barrack building was excellently adapted for the health and comfort of the men at the time it was built, though it needs urinals and latrines on the second and third stories. An elevator would be a great addition.

The officers' quarters are old, dilapidated frame structures, poorly adapted to comfort or convenience. The natural advantages of location and surroundings are so great that a comparatively small expenditure could make the post comfortable and healthful. At present it is neither.

Camp Eagle Pass, Tex.—The buildings are old and the woodwork badly decayed. The veranda of the barracks and the passage from the squad room to the mess room are sinking and separating from the main building, owing to decay of the supports. They have been repeatedly repaired, but are so rotten that further repair is impossible without renewal of much of the underpinning. The condition is really dangerous. The roof of the barrack is full of holes, and during the recent rains the men have been obliged to get up at night and move their bunks to avoid the streams of water coming through the roof. Many of the holes are so large that the swelling of the shingles during a continuous rain will not close them. The rainy season will soon be upon us, and if this leaky condition be not remedied the men will have two months of discomfort, if there are no more serious results. The roof is thoroughly rotten and sags down in many places. The shingles are so rotten that they will not hold nails, and when the eave troughs fill with water their weight drags out many of the nails and they festoon the building in rather an unsightly manner. If a new roof can not be put on, I would respectfully suggest that the building be covered with paulins before the rains set in, an expensive process, to be sure, but justified, in my opinion, by the necessities of the case.

Boisé Barracks, Idaho.—No general terms can possibly define the sanitary condition of the buildings here, so different are they in construction, plans, and surroundings as well as in the possession or lack of conveniences for comfort. To begin with, the quarters for the enlisted men are with few exceptions as good as could be expected at such a place as this. They have good ventilation, good air space, good and safe heating appliances, good cooking appliances, good light generally, and they are kept in good, cleanly condition. * * * The officers' quarters have rooms enough in each of them, but the quarters are not well planned. They are drafty and inconveniently constructed. Their water-closet facilities are abominable, and the bath houses attached to them are practically useless because of the danger of being chilled after bathing in unhealthy rooms separated from the generally occupied parts of the house. No good heating arrangements are provided for the bathrooms of either men or officers. Water heaters in each room would be a boon. * * * The married soldiers' quarters are old and built of logs. They harbor bedbugs and invite catarrhs. Their condition has been set forth by my predecessor. I feel that I need not allude to them further now than to disparage them.

The difficulty of keeping the men warm in quarters is reported from Fort Pembina, N. Dak.:

The barrack rooms have been uncomfortable during the cold weather, as it has been found impossible to heat them sufficiently. * * * I recommend that the squad rooms be suitably ceiled and floored, and that the height of the rooms, which is now 14 feet, be reduced to 12 feet; such an improvement would in my opinion contribute very materially to the comfort of the occupants and at the same time afford sufficient air space. It is absolutely necessary for the welfare and health of the command that the barracks be made more comfortable than they are at present in cold weather. * * * The temperature of this post during the nights of the past month (January) has averaged 19° below zero, on the night of the 25th it was—46°, and on the night of the 27th—43°. Consequently considerable suffering from cold was experienced by the inmates of the barracks.

The quarters of the officers and of the married soldiers are at some posts not in good condition:

Fort Wadsworth, N. Y.—Complaint is made that some of the officers' quarters are not in good condition on account of the leakage and water standing in the basements.

Fort Stanton, N. Mex.—The quarters occupied by the married soldiers are old, dilapidated and very much in need of repair.

Fort Du Chesne, Utah.—The quarters are good except that several of those occupied by married men leak badly.

Fort Missoula, Mont.—Old log buildings are occupied by married enlisted men, the floors of which are generally poor and very close to the ground, leaving little or no area for ventilation underneath In winter it is necessary to do laundry work within doors, and the soil in some of them has become polluted with waste water used for this purpose.

Thirty years ago in the British service the dormitories of the men had at many of the barracks an allowable occupancy which was lettered on the door of the room and was not permitted to be exceeded; and during all these thirty years we have recognized in this country the need for a certain amount of floor space and of air space in our sleeping rooms as preservative of health. This is very well as theoretical sanitary knowledge, but we profit little by it when we find our troops crowded as at Fort Columbus, N. Y., in a minimum of 380 cubic feet per man and a maximum of 460 feet:

FORT COLUMBUS, N. Y.—*Maj. J. R. Gibson:* Limited capacity of the squad rooms or dormitories of the three companies composing the garrison. These apartments are overcrowded. The minimum cubic air space per man is 380 feet (A battery), the maximum 460 feet (C Battery).

FORT BAYARD, N. Mex.—*Capt. E. T. Comegys:* The barracks are too small for the full strength of the companies and troops. The infantry barracks are only large enough for 40 men, and the cavalry for 58 men.

ANGEL ISLAND, CAL.—*Maj. C. E. Munn:* My attention has been particularly called at the recent monthly inspection to the crowded condition of the barracks. As the companies are now recruited to their full strength, very little floor space is left between the bunks. As yet I have observed no sickness in consequence, although there have been much inconvenience and discomfort. At present I have no recommendation to make, but desire to suggest that in the immediate future the barracks will have to be enlarged to fulfill modern sanitary requirements.

Fort Thomas, Ariz., Lieut. E. L. Swift, referring to the crowded condition and faulty ventilation of soldiers' quarters, and suggesting that an unoccupied set of quarters be placed in suitable repair, states:

I am informed by the post quartermaster that there is no material at the post to effect this much-needed reform. In view of this I would recommend that the attention of the authorities empowered to grant the necessary material be called to the spectacle of rooms crowded with rows of beds, from 1½ to 2 feet apart, the air of which at night reeks with the close, confined stench of saturation with animal effluvia. Twenty-one different men have been excused from duty since the 15th of the month, and others have been treated without being excused.

WILLETS POINT, N. Y.—*Maj. Clarence Ewing:* The barracks are continually overcrowded and there is no provision for ventilation. This same evil is the subject of complaint during the whole year.

Deficient ventilation is, however, the chief subject of complaint with regard to the barrack rooms. In many instances no provision has been made for ventilation, except such as is afforded by the doors, windows, and the chinks of imperfect construction. These answer very well in mild and warm climates, but at a majority of our posts something more must be done. Usually when special provision is made for a fresh-air inflow it is brought in by boxes under the floor, opening near the stove, and the outflows are either in the ceiling leading to openings in the ridge or in the walls near the ceiling and the floor opening into the chimney flues. Many faults in attempted systems of artificial ventilation might be pointed out, but those most common in our barracks manifest an utter want of knowledge of this subject on the part of the officers responsible for the construction of the quarters. There is frequently no provision for a fresh-air inflow, the opinion appearing to prevail that if an exit is provided the foul air will go out and fresh air will come in since nature abhors a vacuum; but it is not always clear how nature can avail herself of the exits. There is no air current in a bottle, although its stopper be removed, and there is oftentimes no air current in a barrack room, although there may be a hole in the ceiling communicating with the external air. Not infrequently, however, the hole in the ceiling communicates only with the closed attic and does no more for the ventilation of the room when it is open than when it is

closed. When ridge ventilation, so called, is provided there is frequently an utter lack of proportion between the registers in the ceiling and the opening in the ridge; and so also, when shafts have been built, they are frequently incompetent to perform the work for which they were intended.

Take, for instance, the case cited below by Major Woodhull at Fort Sherman, Idaho, where to properly ventilate the barrack room 108,000 cubic feet of air per hour are required. The only arrangement for supplying this is an exit for the contained air when it is displaced by the incoming air, for which incoming air there is absolutely no provision. The exit consists of two registers 20 by 23 inches each, but so reduced by iron latticework that both combined give but 135 square inches in the clear. Assuming that there is a free ventilating inflow into this barrack room, the contained air would have to whistle through the exit at the gusty rate of 30 linear feet per second to accomplish the intended object. When such insanitary architecture is perpetrated it well may be said that some one conversant with the sanitary needs of the soldier's dwelling should have been consulted before the plans were approved and the money expended for the work. If it be held that Fort Sherman is an old post, and that nothing of the kind occurs at the present day, I desire to invite attention to a barrack building recently erected at Columbus Barracks, Ohio. This building consists of a center and two wings, the former of three stories containing orderly rooms, offices, storerooms, etc., the latter, each of two stories, used as squad rooms or dormitories. They measure each 68 by 30 by 12 feet, and are each subdivided into fifteen cells or stalls, each 9 by 8½ feet, and separated from the others by a partition 8 feet high, leaving the upper 4 feet of each room common to all the subdivisions. Such an arrangement of course adds materially to the difficulty of properly ventilating these barrack rooms, yet no provision whatever was made for ventilation. A little knowledge of the need for fresh air, and of the means of introducing it and of removing the respired air, would have modified the plans for this barrack so that if the stall arrangement had been insisted upon for the sake of privacy, which by the way is inconsistent with the family character of the military company or troop, there would have been proper provision for the ventilation of the stalls in the original plans.

At the same post I find recently constructed officers' quarters with so little attention to drainage of site and the exclusion of subsoil that 60 buckets of water were bailed out daily from a hole in the cellar floor measuring not more than a cubic foot. Here were the causative conditions of rheumatism, pneumonia, and consumption for the families condemned to occupy these quarters. When such sanitary faults come within my cognizance in the reports of the medical officers of the Army, I can not refrain from reiterating the recommendation made by the Surgeon-General of the Army in the Annual Report for the year ending June 30, 1888, p. 103, in the following language:

"The formulation of a general plan for the improvement of the sanitary conditions now prevalent throughout the Army, especially those connected with the construction of quarters and with water supply, drainage, disposal of nightsoil, bathing facilities, food, and clothing, is a matter of so much moment, and involves the consideration of so many questions of a diverse nature and the reconciling of so many conflicting interests, that it ought to be intrusted, not to any one officer nor to the officers of any one arm or department, but rather to a board of officers, who should represent different branches of the service, and should be selected because of their special fitness for the duty required. No argument can be needed to demonstrate the necessity for a full representation of the Medical Department in the organization of such a

board, for it is obvious that, by reason of his special training and experience, the opinion of the military surgeon and sanitarian upon almost any question likely to be presented for the consideration of the board must be entitled to considerable weight, while without his advice and assistance a satisfactory solution of many problems of sanitation can not be hoped for.

I earnestly recommend the appointment of a sanitary board as indicated above, and that this board be charged with a thorough investigation of and report upon the sanitary conditions prevailing in the military establishment. This report should include a statement of the nature and probable cost of proposed improvements, and upon it can be based any action which may be deemed advisable. If it be found, as it doubtless will be, that current appropriations are insufficient to meet the cost of the changes recommended, Congress can very properly be asked to provide the necessary funds.

Generally when improvements are to be made the views of the medical officer are requested and have due weight in the decision of unsettled points, and in hospital construction the regulations call for the opinion of the medical officer and constitute that officer the inspector of the work on behalf of the Medical Department; but other buildings and important sanitary works are sometimes planned and carried to completion without reference to medical opinion. The need of subsequent alterations, so frequent in the experience of the past, would often be obviated were the views of the medical officer to have full consideration before final action is taken in all such cases. In fact, medical officers are maintained at military posts not so much for the treatment of the individual sick, as to guard against sickness by recommendations based on their knowledge of the causes of disease. Hence, if it be deemed inadvisable to organize such a board as is recommended above, I would suggest, in the interest of the service and for the protection of the Government against possible mistakes, that the Regulations of the Army be so modified as to place all buildings at military posts on the same footing as hospital construction, and in all such cases, before the plans leave the post, the local medical officer be requested to give in writing his views on the sanitary questions of location, drainage, sewerage, ventilation, heating and lighting, and that the report of completion, so far as sanitary matters are concerned, be accompanied by a like report from the medical officer.

Major Happersett entered a protest against the rough or sand finish of the walls of the barrack buildings and water-closets of Fort McPherson, Ga., which appears to be well taken in view of the sanitary opinions that are now dominant. The inequalities of the sand finish offer a convenient harborage for all types of bacterial dust, and certainly the hard and smooth finish which he recommends is cleaner and necessarily more healthy.

FORT MCPHERSON, GA.—*Maj. J. C. G. Happersett:* Except the officers' quarters the inside walls of all buildings here have a "rough" or "sand" finish, which, for barracks and water-closets especially, is extremely objectionable from a sanitary point of view, furnishing a safe and convenient harbor for all types of disease germs. Investigation and experience have demonstrated that the smoother, harder, and more impervious to moisture all such walls are rendered the safer and better for health. I would therefore recommend that the walls of the buildings intended for occupancy by troops have the customary hard finish, being far less objectionable and, as I am informed, not more expensive than the present method.

FORT SHERMAN, IDAHO.—*Maj. A. A. Woodhull:* The second matter for the consideration of the commanding officer is the ventilation of the barracks. The men's sleeping rooms, the so-called squad rooms, occupy the second story of the barrack building and are uniform in plan, although two have higher ceilings than the other two. The smaller of these, 133 by 23 by 10 feet, 30,590 cubic feet, has adequate floor space and cubic capacity for its average occupancy, but in common with the others has no proper provision for the change of air. Taking a company of 54 men, with a nightly average present of 36, and a maximum thus present of 42, we find that in order to give each of the 36 men 3,000 cubic feet of air per hour (the proper allowance) the

whole 30,590 cubic feet must be changed a little more than three times per hour, and for more men the change must be made more frequently. There is no provision for the direct admission of the external atmosphere, and what does enter makes its way through undesigned openings in construction. The presumed escape of the contained air is through two so-called ventilators, 20 by 23 inches each, covered with lattice work. Each of these has 30 lozenge-shaped openings 1½ inches square, or in both a total of 135 square inches, somewhat less than a foot. These openings communicate directly with the attic, which is not accessible in any other way, and the attic communicates with the outer air by small, slatted openings at each extremity and midway on the two sides. The contained air in the squad room can not pass out through these openings to any appreciable extent, and if it could they are too small to properly ventilate the room. There should be a minimum of 6 square inches per man for formal exit, which makes allowance for imperfect construction and for the draft by the stoves. For temporary relief, with little expense and trouble, I advise the introduction through the roof, just within the outer wall, near the eaves, of each side of the squad room of 6-inch tubes, to extend as high as the ridge and to be capped sufficiently to exclude the rain. These are made of galvanized iron, but ordinary stovepipe or tin water pipe will answer for the time. These can be put in without difficulty and will materially add to the comfort and health of the men and relieve the close and stuffy feeling that now prevails at night. A radical and permanent improvement of the ventilation should be through the ridge, and might properly be a subject for the next year's estimates by the quartermaster.

FORT RENO, OKLA.—*Capt. J. C. Merrill:* Bad ventilation of barracks; sanitary condition of the houses occupied by enlisted men wretched. The cubic air space in most of the barracks is sufficient, *per se*, averaging over 1,000 cubic feet per man, the lowest being in the south and north dormitories of E troop, in which it is 854 and 750 cubic feet, respectively, with a floor space of 74 and 64 square feet per bunk. Such average air space is, however, practically much reduced by the defective ventilation. Where air shafts have been put in their size is wholly inadequate; thus in the dormitory of G company, which has a partial partition, but is practically one room of 98 by 28 by 12 feet (32,928 cubic feet), there are two shafts each 1 foot square and a third 15 inches square. In a majority of the dormitories there is no shaft, a hole in the ceiling opening into a dark attic. In B and G troops there is a latticed opening in a hipped projection from the attic facing south; the prevailing wind from that direction has the effect of forcing the attic air down into the dormitories. No inlets are anywhere provided. It is suggested that the hanging lamps be suspended immediately under all shafts and ceiling openings to cause a certain amount of updraft during the evening; but it is again submitted that in all the barrack dormitories at this post the means of ventilation are altogether inefficient.

FORT RILEY, KANS.—The question of ventilation of the barracks is still a vexed one.

FORT BOWIE, ARIZ.—Quarters good. The barracks are inadequate and poorly ventilated.

NEWPORT BARRACKS, KY.—Lack of proper and sufficient ventilation of the lower dormitory of the men's barracks.

CAMP POPLAR RIVER, MONT.—*Lieut. J. D. Poindexter:* All the houses at the post except the post hospital are imperfectly chinked and improperly ventilated. There is in winter no way to fully ventilate the houses except to open the doors, and this keeps the floors many degrees colder than the ceilings. It is not uncommon to find the temperature 30 degrees colder at the floor than it is 6 feet above. As a result of this, nasal and bronchial catarrhs and headaches prevail to a far greater extent than the sick returns show, for the men are not usually excused from duty when suffering from these comparatively trivial complaints.

FORT MASON, CAL.—*Capt. H. O. Perley:* Ventilation is poor and unsatisfactory, especially in the squad rooms and guardrooms of the post guardhouse. Two of the squad rooms have ridge ventilators, but no means have been provided in any of the rooms for the admission of air. The third squadroom has no ventilation other than the ordinary windows and doors. The post guardroom, occupied by one noncommissioned officer and four privates, is entirely lacking in proper means of ventilation. There is also need of more sunlight in the barracks. I would respectfully recommend that all the windows in the squad room and post guardroom be utilized as means for admitting fresh air by placing a triangular box frame in the window casing of the upper sash of each window, and covering the top of said box with fine wire gauze; by this means the upper sash could be lowered 6 inches, and fresh air coming in could be directed to the ceiling and properly diffused around the room.

FORT WASHAKIE, WYO.—*Lieut. Chas. F. Mason:* The natural conditions of this post are certainly such as would give promise of the utmost healthfulness. Located on a porous soil several feet above the river level, with excellent natural drainage to that stream, with an abundant supply of pure water, dry air, comparative freedom from winds, and almost constant sunshine, we must consider the cause of dis-

ease artificial and avoidable. Upon looking over the hospital records I find that the excessive amount of sickness may be referred almost entirely to the following classes: Rheumatism, muscular and articular; follicular tonsillitis and neuralgia; the presence of follicular tonsillitis is especially marked. These diseases are closely allied as to causative influences, and prominent among the causes in my opinion are systematic depression from slow organic poisoning and undue exposure to cold. Now the conditions of this post are just such as the nature of these diseases would lead us to expect. In the first place, privy sinks have been in use here for years, and these sinks are situated a very short distance from the barracks. The barracks themselves, with one exception, are old adobe buildings whose walls have for years absorbed organic exhalations from their occupants. These barracks have no ventilation under their floors and no special openings for the entrance of fresh air, though exits are provided in the roof. The air from the outside being very cold, the windows are kept closed, and as air must enter somewhere, much of it is ground air coming through the floors and undoubtedly contaminated by the adjacent privy sinks. Again, during the winter I have found, upon visiting the barracks and guardhouse, that the windows were all closed, the rooms very hot, the men lying scantily covered upon their beds and the air close and offensive; in other words, the conditions were most favorable for the development of colds, should a door be suddenly opened; add to all this that the barracks have been at times overcrowded, and I think we do not have to go farther to seek for the cause of disease. The guardhouse, especially, has been frequently overcrowded. Each cell has no means of ventilation except one small window, and this I have always found closed. The causes of disease having been ascertained, the remedies are obvious and have already been suggested. The old adobe barracks can never be made thoroughly healthful, but sub-floor ventilation, introduction of fresh air into the squad rooms, and free use of whitewash will much improve them; the guardhouse should be enlarged, but in the meantime can be much improved by the measures indicated for the squad rooms. Measures have already been taken to substitute water-tight vaults for the present sinks. It is proposed to have separate vaults for the urine, and to use in all a mixture of dry earth and sulphate of iron, the vaults to be emptied when full. While I do not believe this is the best system of disposing of excreta, it is the most practicable one for this post at the present time.

FORT LEAVENWORTH, KANS.—*Maj. A. A. Woodhull:* The ventilation of certain buildings is not what it should be. The ventilators in the new brick barracks have no direct connection between the ceiling and the squad room and the exits at the ridge. The apparent openings in the ceiling are much diminished by the ornamental iron work, and there are not enough of them for the size of the room, especially with its increased occupancy. So-called ventilating shafts in the infantry barracks from the first sergeants' offices do not extend through the roof, as should be the case, and to which attention has been called. This is also true in the officers' quarters at the west end. I am of opinion that the ventilating shafts in the infantry barracks should be extended higher in order to secure better the effects of aspiration. Although the ventilation of those quarters has been much improved it is not yet adequate for the approaching season of closed doors and windows.

COLUMBUS BARRACKS, OHIO—*Inspector-General R. P. Hughes:* In the matter of ventilation for the new barracks I desire to say that this building is too good not to be attended to. It is heated by means of steam and the dormitories are reached by a hallway. When the dormitory doors, which are swung on the center, and windows are closed, there is no possible way for the ventilated air to escape or for fresh air in proper quantity to enter. The occupants of these rooms are constantly changing, and are assembled from widely segregated districts. It is impossible to tell what dangerous organic microbe may be set afloat in the confined air space of these dormitories, and if an opportunity is not given for the escape of such organic matter serious trouble may be the consequence. I think ventilating shafts could still be introduced without doing much damage to the building, and for slight expense, and I recommend that it be done.

Capt. A. A. De Loffre: I have the honor to submit the following report, referring to the indorsement of the Surgeon-General on copy of the report of Col. R. P. Hughes, Inspector-General, U. S. Army, in the matter of ventilation of the new barracks at the depot, under date of November 23, 1889. I will state, by the way, that this building has been completed and occupied about six weeks, and that, as the inspector states in his report, no provision was made in the plan for artificial ventilation, although proper ventilation might have been secured at very little additional expense. In order to understand the peculiar difficulties which are encountered in devising a plan for artificial ventilation to this building it will be necessary to describe it. It consists of a main building with two wings. The main building has three stories and contains orderly rooms, offices, storerooms, etc., and in this report will not be considered, because the natural ventilation is sufficient. The wings of the main building are each two stories in height and are used as squad rooms. They measure

30 by 68.7 by 11.11, and are subdivided into fifteen cells, each cell being 8½ by 9, with board partitions 8 feet high, a doorway being placed in the center of the front partition. These stalls contain each two beds, two wardrobes, a window, and are occupied by two men. The air space per man, without taking into account the partitions, the wardrobes, etc., is 817 cubic feet, but deducting 75 cubic feet per man for the above articles, which estimate I do not believe to be excessive, it leaves 742 cubic feet per bed.

The whole building is heated by steam. It is not possible to use the flue connected with the steam apparatus as an aspirator shaft because it is attached to the main building; hence, if artificial ventilation is deemed necessary, an aspirator shaft will have to be provided. If the dormitories were only one story in height the problem might be easily solved by the double tube of McKinnel; but under existing circumstances I can not see how it is possible to dispense with an aspirating shaft, and it seems to me that one might be added to each wing without doing damage to the building. Just at this point, however, another difficulty presents itself. Supposing an aspirating shaft is built, it will be necessary to provide for the admission of fresh air, which may be done by surrounding one or more of the steam radiators with a jacket and connecting it by means of a flue under the floor with the outside air. But how can air be made to circulate freely throughout a room which is partitioned off as before described? I do not believe it will be possible. I must confess that I have not had sufficient experience in such matters to be able to devise a plan for ventilating the dormitories in question without assistance of some one who has made the subject of ventilation a special study. If, however, the aforesaid partitions were torn down, matters would be much simplified. So much on the subject of ventilation, taking it for granted that in this case ventilation is necessary. I think it was a great omission that artificial ventilation was not provided for this set of barracks when it was built, but it having been omitted in this case, I think the necessity for supplying it now is not sufficiently apparent. It will be a costly affair, and may not after all attain the desired end. * * * I have been informed that the post quartermaster has had orders to devise some means of ventilation for the aforesaid dormitories, and that he employed a plumber to draw up the plans and specifications. I tried to find out what these plans were, but they had gone to Washington and no copies were retained at the post. The plan may be a valuable one for all I know, but the chances are it will really prove of benefit only to the contractor. * * *

I beg leave to submit the following report in regard to the sanitary condition of at least three of the set of officers' quarters recently completed: No provision was made for draining the cellars of the aforesaid quarters, and in consequence thereof they are extremely damp by reason of the floor or bottom being saturated with water which percolates through the outside earth. To give an idea of the amount of water these cellars contain I will state that an officer who occupies one of these houses informs me that he has had his cellar bailed out every day for at least a week, and that 60 buckets of water were taken out on an average daily from a hole in the cellar floor not more than a foot square by a foot deep. Aside from dampness which is caused by the cellar not being drained, the cold-air box leading to the furnace, and which is constructed under the floor of the cellar, is nearly half full of water all the time, and in consequence a sufficient amount of air can not be supplied to the furnaces for the purpose of heating the houses. I speak authoritatively when I say that in my own house fully 800 pounds of hard coal have been consumed in 3 days without producing a sufficient amount of heat when the thermometer ranged — 25° F. The furnace would be red hot, but not a particle of hot air would pass through about half of the registers; of course if cold air is not supplied to a furnace one can hardly expect warm air to come from it. In addition to these defects I will state that the floors of the cellars are lined with ordinary brick, which being porous absorb water like a sponge until saturated, and then of course the moisture finds its way throughout the house. Now, it seems to me that this state of affairs can not be conducive to a good or even fair sanitary condition of the aforesaid quarters, and I beg leave to request that immediate steps be taken to verify these statements, with a view of properly draining the aforesaid cellars, and otherwise making such improvements as may be necessary for the comfort and safety of the occupants of these quarters.

Much has been done during recent years to improve the condition of the guardhouses of the Army, but from time to time insanitary conditions, insufficient accommodations, defective ventilation, etc., are recorded by medical officers with a view to improvement, and with the result usually of some sanitary gain by the effort. The guardhouse should be as clean and well ventilated as any building at a military post. As Capt. Shannon observes: "The plainest fare, the hardest bed, and the most rigid confinement should in no way interfere with the

strict observance of hygienic details in the sanitary care of the prison and the prisoners." At several of our posts the prison room is overcrowded, unventilated, and foul, as may be seen from the following extracts:

CAMP POPLAR RIVER, MONT.—*Lieut. Poindexter:* Windows are much needed in the post guardhouse, and if these can not be supplied, stuffing the crevices between the sashes is desirable. The prison room, although sufficiently large, has no adequate ventilation. The stove does well enough for an outlet, but the opening through the guardroom door, which is used for an inlet, is worse than useless, for the air of the guardroom is even more vitiated than that of the prison room which it ventilates. Two shafts, each 10 inches square, carried through the ceiling and 5 feet above the roof, protected by a tower, would correct the defect. A flap could be used for partly closing each in cold and gusty weather.

FORT CUSTER, MONT.—*Capt. W. R. Hall:* All the buildings are in good sanitary condition except the guardhouse, which is simply a disgrace to the service. To place it in a clean, proper condition for occupancy would cost nearly as much as to build a new structure. Moreover the design is faulty in the extreme, there being only one room for garrison and general prisoners

FORT NIAGARA, N. Y.—*Maj. A. C. Girard:* Condition of buildings and quarters, clean and well suited to the wants of the garrison, with the exception of the guard and prison rooms, which are insufficient in size and ill-adapted to the purpose for which they are used.

FORT WINGATE, N. MEX.—*Maj. P. J. A. Cleary:* The guardhouse is in as good condition as such a building can be kept, but it is badly constructed and badly ventilated, old and dingy, and ought to be torn down and a new one built. The prisoners are wretchedly crowded.

FORT ADAMS, R. I.—*Maj. S. M. Horton:* The general prison room at the post guardhouse has no proper ventilation.

ALCATRAZ ISLAND, CAL.—*Capt. W. D. Dietz:* The sanitary defects of the prison are especially apparent at this season of the year. The ventilation of the buildings is very faulty. The corridors, kitchen, and mess rooms are disagreeably and dangerously drafty. The cells, when their solid doors are closed, leaving only a few inches space between the top and the lintel, simply can not be ventilated, and the prisoner, when locked in for the night, is virtually boxed up for so many hours. Moreover, as he is required to keep his night vessel in his cell, the atmospheric conditions that must of necessity occasionally prevail can readily be imagined. The guardroom also is devoid of sufficient means of ventilation and the air in it is often exceedingly foul, so much so that noncommissioned officers have complained of its sickening effects. The facilities for heating, bathing, washing, and laundrying which the prison affords are likewise inadequate. The means available for solitary confinement are such as have long been discarded in the better class of civilian penal establishments.

FORT APACHE, ARIZ.—*Capt. W. C. Shannon:* The guardhouse was evidently built with the one single object in view, security. Ventilation is defective, small airholes and windows. The capacity is entirely inadequate. The conveniences are the necessary bucket in a filthy, saturated corner of the prison room. The windows are too small and too few in number. * * * The air space of the guardroom permits of 450 cubic feet for each occupant, not estimating for the members of the guard actually on post, or for the sergeant sleeping in the guardhouse office. This is certainly limited, considering the absence of ventilation except by windows and the door. The prison room admits upon a basis of average occupancy of 530 cubic feet per man, an amount too small considering the limited ventilation and the present objectionable "convenience corner." The cells are relics of the subterranean dungeons of the Middle Ages; the fact that the purifying rays of the sun can never penetrate them is sufficient to condemn them. Fortunately, they are rarely used. If dark cells are necessities for disciplinary purposes, they might be constructed when required of removable planks, and with a positive assurance of efficient ventilation during occupancy. It is believed that the guardhouse should be the cleanest, the whitest, and the best ventilated structure in the post, that the plainest fare, the hardest bed, and the most rigid confinement should in no way interfere with the strictest observance of the most minute hygienic details in the sanitary care of the prison and of the prisoners.

WHIPPLE BARRACKS, ARIZ.—*Maj. B. F. Pope:* Attention is invited to the danger of requiring prisoners to sleep on the floor of the prison room in the post guardhouse, even when a bed sack is used. There are wide cracks in the floor of this room which are filled with decomposing organic matter, and there is at all times unavoidable dampness from proximity of the floor to the ground beneath. To meet this I would respectfully suggest that some kind of sleeping shelf or platform be provided for the use of the prisoners, which would serve the purpose of a bed. Ringbolts could be fastened to the walls, to which might be swung by iron hooks, light movable platforms, 6 feet long by 30 inches wide, and upon which the bed sack could be placed. These platforms should be taken out during the day for cleaning, and then stored in one of the cells until night.

DRAINAGE, SEWERAGE, ETC.

The natural surface drainage at many of the posts is said to be efficient, as at Camp Del Rio and Eagle Pass, Tex., Fort Bayard, N. Mex., Fort Missoula and Camp Poplar River, Mont., Fort Buford, N. Dak., Fort Meade, S. Dak., Fort Du Chesne, Utah, Boisé Barracks, Idaho, Forts Apache, Huachuca, Lowell, and San Carlos, Ariz., Forts Canby and Spokane, Wash., and Fort Mason, Cal. At others the natural incline is aided by surface ditches, as at Fort Custer, Mont., Fort Lewis, Colo., and Fort Pembina, N. Dak. In some instances, as at Fort Davis, Tex., these failed at times to carry off the surface water.

FORT DAVIS, TEX.—*Capt. W. C. Borden:* During the months of September and October twenty-eight cases of remittent fever have occurred in this command, averaging 267 men, being nearly 10½ per cent of sickness due to this one cause. Most of the cases were obstinate, lasting from three to four weeks, and having a lingering convalescence. It is believed that the cause of this large percentage of sick is known and removable. The post is situated at the mouth of a cañon, down which, during the rainy season, the water from an extent of mountain country is poured. An attempt has been made to prevent this water from flooding the post by digging a ditch and throwing up an embankment. This has, however, proved ineffectual, as the soil of which the embankment is composed has no cohesion and breaks at every freshet; the water floods the officers' quarters several inches above the floor and carries surface washings with it under the floors, which latter, not being ventilated, are weeks in drying out; then it flows across the parade, floods the mens' quarters, and saturates the ground beneath them. The resulting underfloor dampness and the emanations from the slowly drying soil and surface washings are certainly unhealthy. This should be prevented. Something more than the loose soil is needed in the embankment to prevent the water from breaking through; but as a stone embankment would be costly, I would recommend that a board fence of sufficient height, well battened, braced at the back with deep-set posts, a ditch in front, and the soil banked up behind it be constructed for interception. Such a fence and embankment could be constructed at comparatively small expense, and with a small annual outlay for repairs would be effectual.*

From a number of posts come complaints of the want of an efficient drainage system. Slop water of all kinds is thrown upon the surface, and although this may have for a time no bad effect on the health of the garrison, in progress of years the soil necessarily becomes contaminated. The posts which have no provision for carrying off the waste water are also generally those where the field sink or earth pit has been dug, filled, and covered over so often that the lines of occupied quarters are surrounded at so many paces in their rear by a honeycomb of disused, hidden, and forgotten vaults filled to the surface with foul organic matters. The post surgeons at Fort Barrancas, Fla., and Boise Barracks, Idaho, make reference to these conditions in their report.

FORT BARRANCAS, FLA.—*Capt. W. C. Gorgas:* The latrines empty into pits; kitchen slops are carted off, and wash water is emptied on the ground under the houses, or thrown out about the doors and windows. The post is exceptionally situated for a drainage system. * * * When one thinks that this system has been in use on this same ground for the past 200 years, it is surprising that the soil is not a mass of decomposing organic matter. It is only the natural advantage of location, soil, and drainage that has allowed us to live so long in this way with comparative impunity; but its continuance is a serious menace to the health of this community.

BOISE BARRACKS, IDAHO.—*Capt. Marcus E. Taylor:* The surface drainage here is good in a way, but it lacks some main outlet. Furthermore, it has two serious defects which in sanitary supervision I can not overlook. One of them is the undrained depression southeast of the hospital that should have an outlet; the other is a grave defect in the drainage of the officers' quarters. These are built upon a steep hillside, with the rear of the quarters looking to the hill. Additions have been made, and these have pretty nearly run into the hillside. The additions are fairly in the ground, and under the floors is neither drainage nor ventilation. Dampness, colds, coughs, rheumatism, and diphtheria take the place of drainage and ventilation. An

* Fort Davis was ordered to be abandoned July 3, 1891.

adequate system of sewerage is badly needed at this post, with galvanized iron receptacles for garbage to be regularly removed to an authorized dump pile. Privy vaults and cesspools may be endured by the human system for a while, but hardly forever. * * * The surface drainage at this post would strike a new comer as being good, but investigation properly conducted will disclose the absence of drainage by method. The indefensible practice of privy vaults that are not cared for even through the subterfuge of putting disinfectants upon their disgusting contents, the cess-pit system for slops that intensifies every imaginable protest against polluting underground air by privy vaults, untrapped and unprotected connections, with abominations like them, disclose a sanitary surprise.

The substitution of the dry-earth system by pail or box for the sink or earth pit has been a sanitary measure of great value at many posts, as at Fort Sheridan, Ill., Forts McIntosh and Elliott, Tex., Fort Lowell, Ariz., Fort Marcy, N. Mex., Fort McKinney, Wyo., and Fort Yates, N. Dak. Sawdust was used as an efficient substitute for dry earth at Fort Missoula, Mont. The metal pail has proved greatly superior to the wooden receptacle. The wooden boxes at Camp Eagle Pass, Tex., leaked badly during the year. The post surgeon at Fort Bennett, S. Dak., has urged the adoption of the dry-earth system, and similar recommendations at Fort Buford, N. Dak., and Whipple Barracks, Ariz., have been carried into effect. At Fort Townsend, Wash., the sinks gave place to a sewerage system with water-closets and ample flushing tanks, and at Fort Wingate, N. Mex., the new sewerage system when completed is expected to be a valuable addition to the sanitation of the post.

The dry earth system entails labor, but is considered satisfactory when properly carried out. Neglect gives rise to such reports as the following:

Mount Vernon Barracks, Ala.—*Maj. P. J. A. Cleary:* All the privies were foul, emitting a sickening odor, and in several were large masses of maggots. Anything more revolting it would be hard to imagine. These privies have what are known as boxes, which are cleaned or emptied by contract once a week. Dry earth is supposed to be thrown into them whenever used, except in the privy used by the enlisted men, where it is supposed to be thrown in every morning. But even where the earth is thrown in it does not seem to suppress the foul emanations, partly because the earth is chiefly sand and partly because the boxes are wooden, old, and thoroughly saturated with filth. The privies, too, are the most wretched structures that could be erected for such purposes. Some are worse than others, but for the most part they are quite small and without windows or ventilating shafts, so that on entering one has to endure the heat and filthy odor. Several of the boxes leak badly, which of course makes the vicinity always foul. The remedy for this state of things is evident. The boxes should be cleaned daily. New boxes should be supplied, either of iron or wood, zinc-lined. All the old privies should be torn down and suitable structures erected. I recommend that these changes be effected with as little delay as possible, for with such conditions at the beginning of summer one can readily imagine how much more aggravated they will be later on. I desire in this connection to recommend that a suitable structure be erected for the storage of dry earth to be used in the privies. The earth is now hauled and dumped under a shed which does not protect it from rain: consequently, wet and worthless earth is frequently used.

The primitive character of the water-closet provision of Fort Hamilton, N. Y., was referred to in the last annual report from this office. It has remained unaltered during the past year, and that provided for the prisoners at Alcatraz Island seems to be of an equally uncomfortable and dangerous character.

Fort Hamilton, N. Y.—*Maj. Ezra Woodruff:* I respectfully invite attention to the character of the men's sinks at the barracks of Battery I and Light Battery K. They consist of an immense trough with a beam or scantling laid along the front edge on which a man must sit. Everything behind is open. It is a recognized fact that these crude arrangements are unsanitary in the highest degree; the whole spinal column is subjected to draughts of air, which may cause sciatica and muscular rheumatism. The disgusting sights and odors and the lack of privacy condemn the plan utterly.

It is a modification of the fence rail on two crotched sticks over an open pit used in the field.

ALCATRAZ ISLAND, CAL.—*Capt. W. D. Dietz:* The prison sink, situated at the water's edge, is primitive in design, and in the inclement season a fruitful source of colds, due to exposure to strong currents of wind which blow up through the one large unguarded opening in the seat.

At posts which have a water service and sewerage system much attention has been paid of late years by our medical officers to the plumbing. Many defects have been remedied, and in other cases in which the remedy involved expenditure which placed it beyond the reach of the post quartermaster and commanding officer, special reports have been forwarded with estimates for a system that would meet the requirements of modern sanitation. The faults that are commonly reported are leaks and breaks in house drains, the sealing up of such drains under cellar floors so that it is difficult to ascertain their condition, the want of proper traps to prevent the ingress of sewer air into living rooms, the want of vents to these traps to prevent siphonage, the opening of such vents, when present, in position to taint the air of the dwelling, and the want of adequate means to flush the soil pipe, sometimes arising from defective water supply, as notably at Fort Riley, Kans., where the water so used has to be hauled in barrels—sometimes from defective arrangement to utilize the supply, as where 1¼-inch pipe delivers into a 4-inch pipe.

There is no more important sanitary subject than this, so far as regards the local origination of disease; and medical officers are called upon to investigate with the utmost care every point connected with the plumbing and sewerage of their station, and report the result of their investigation to this office.

Illustrations of the points referred to may be found in the following extracts from sanitary reports:

JEFFERSON BARRACKS, MO.—*Maj. D. G. Caldwell:* The men's sinks are old and leaky, and have no satisfactory system for flushing. These sinks should be supplied with iron tanks and an automatic system of flushing.

MADISON BARRACKS, N. Y.—*Maj. J. D. Hall:* The water-closets of the several barracks are deficient in size of pipes, not giving a free enough flush to clear the pans thoroughly.

COLUMBUS BARRACKS, OHIO.—*Capt. A. A. De Loffre:* From long use the closets have become foul, and in some instances leaky. They require a great deal of care to prevent the escape of sewer air; in fact, from a personal experience of over six months, I do not believe it is possible to prevent a certain amount of sewer air from escaping into a room every time a closet is flushed. The closets referred to are by far the most imperfect ones at this depot, and in my opinion they can not be repaired in a satisfactory manner; they should be replaced by new ones of a more modern type as soon as possible.

FORT RILEY, KANS.—*Capt. R. R. Ball,* commenting on the flushing of the water-closets by a water supply hauled in barrels, says: "This is of course inadequate, and unless connections can be made with the water system at this post I would recommend that the connection with the main sewer be cut off and the old system of earth closets be returned to. As it is now, the pipe leading to the main sewer is broken and exposed, and the latrine stands half full of stagnant excrement. In the old earth closets this would in a measure be corrected by fresh earth as an absorbent and disinfectant."

NEWPORT BARRACKS, KY.—*Capt. H. J. Raymond:* The Jennings water-closets in the officers' quarters are old and worn out, and though frequently put in repair, the work, from the nature of the case, can be but little better than a temporizing measure. The water-closet in the post surgeon's quarters is especially defective, and I am aware that similar defects exist in most of the closets at the post. It is recommended that they be replaced by closets of the flush-tank system.

FORT MASON, CAL.—*Capt. H. O. Perley:* The surface drainage is excellent. The natural slope of the ground and character of the soil are such that all water is quickly carried off. The sewage of the post is carried into the harbor by iron soil pipes.

These are frequently flushed and kept in good sanitary condition. * * * The plumbing was thoroughly investigated and tested with peppermint. The bath tubs, kitchen sink, and wash sink in the barracks were not in good repair, improperly trapped, without vents, and the soil pipe receiving the discharges from these fixtures was not ventilated in any way. This drain connects with that from the company sinks, making safe and reliable traps an imperative necessity. The hospital has an old zinc-lined wash sink, a zinc-lined bath tub, an old siphoned closet and urinal. The soil pipe has no running trap or fresh air inlet, and does not extend above the fixtures. There is a continued complaint from the hospital attendants and patients of the odor in the bathroom, and disinfectants have to be frequently used. The plumbing in officers' quarters No. 1 was found to be in good condition. The remaining five sets of quarters could not be tested with peppermint oil without opening the main drains, as they had no fresh-air inlets, and in two cases the soil pipe did not extend above the fixtures. In all of these quarters I found old "pan closets," "knot traps," and the whole plumbing was in a decidedly unsafe and unsanitary condition. The rain leaders in two of the sets served as ventilators, and discharged sewer air under bedroom windows. There are five pit closets. They are made by digging a hole in the ground and supporting the sides and ends by boards. Four of these are in daily use. They have not been cleaned out for some time, nor have they been regularly disinfected. Five drains of vitrified ware, from 12 to 4 inches in diameter, carry the sewage to the beach. These drains have been broken, so that 2 of them discharge on the beach above high water, and 2 open on the cliff at some distance above the beach. There are no manholes or other means of ventilating them.

FORT SHERMAN, IDAHO.—*Maj. A. A. Woodhull:* Latrines, earth pits; drainage into cess pits. It is probable that some of the kitchen waste pipes are coated with grease containing other animal matter, and that this coating diminishes their caliber and gives some odor. A strong, hot, alkaline solution poured into them at stated intervals will obviate or diminish this, and I recommend that instructions to the following effect be issued: Company, troop, and detachment commanders and officers occupying quarters will cause their kitchen sinks to be cared for in this manner: Once each week, after the sink has been cleaned, a quarter of a pound of lye dissolved in 1 quart of boiling water will be poured gently, while still very hot, into the waste pipe, and allowed to remain in the trap overnight. No other water must be used in the sinks until the next morning. The contained grease will then be dissolved and will be carried off when the trap is flushed next day. * * * Relative to proposed sewer, especial attention is invited to the importance of the pipe being sufficiently small. The constant temptation is to have the caliber of the sewer too great, in which case the force of the flow is diminished and the waste lodges instead of passing off. No material increase of the post need be anticipated or provided for as with a growing town, and as storm water should not enter the sewers, a very moderate caliber will suffice for the future as well as for the present. A 6-inch main will be ample and a smaller one would probably suffice. In fact, on the Long Island coast, a settlement of 23 country houses with water closets and bath tubs used for 9 years, and probably is still using, a 4-inch sewer, laid across a salt marsh for 2,800 feet, having a total fall of only 3 inches, in which no stoppage has occurred and no trouble of any sort has been met with. A 3-inch pipe from the quarters and the same from the barracks will be sufficient. A too large pipe will admit bottles, brushes, shoes, and other solids that experience shows soldiers will introduce until well instructed in using water-closets and sewers. The most important point, however, is that of construction. It is vital that the sewer line have all the proper accessories, and that the material be of first class, and also be laid by skilled workmen under the careful supervision of an expert. Such mechanics and agents are scarce, but a good sewer properly laid is indestructible except by violence, while a poor line poorly built is a never-ending source of trouble, exposure, and danger. I regret to say that poorly laid sewers are too common at military posts. Unskilled workmen and inexpert overseers can not lay such a system. I recommend, therefore, that the estimates provide not only for perfect material, but for expert service as indicated.

UNITED STATES MILITARY ACADEMY, WEST POINT, N. Y.—*Maj. Henry McElderry:* The drainage and sanitary condition of the cadet hospital, officers' quarters, and cadet sinks remain unsatisfactory—the same as already reported in my special and last two monthly sanitary reports.

After the repairs made by the post plumbers of the water-closet pipes of the cadet hospital were completed, as reported in my last sanitary report, the soil pipes throughout the hospital were again tested, and several of the water-closets were found still leaking. It is probable, as reported already by the post quartermaster, that the water-closets themselves are defective, and that the leaks occur around the handles of the pull-up, the side water seal being siphoned out.

It has been observed that in many officers' quarters the soil pipe inside the walls of the house is of earthenware instead of iron, as it should be, and that the connec-

tion of the earthenware and iron pipe being made of cement is liable to leakage; several leaks in the soil pipe in officers' quarters have occurred from this cause during the month.

The quarters occupied by Lieuts. Boughton and Alvord have been filled with sewer gas during the month by the soil pipes not being properly extended above the roof; one of the soil pipes ending just below the roof, and the other extending a short distance above, being capped and a space left between the soil pipe and the roof, and the soil pipe not being trapped, the gases from the sewer readily found an entrance into the house. I recommend that an examination be at once made of the manner in which the soil pipe extends above the roof in all the officers' quarters, and if any be found thus defective, that the unsanitary condition of affairs be remedied.

There have been three cases of scarlet fever during the month among the corps of cadets, viz: Cadet Louis H. Bash, fourth class; taken sick April 1, now convalescent, out of quarantine; Cadet Louis B. Lawton, fourth class, taken sick April 5, now convalescent, still in quarantine; Cadet Frank M. Caldwell, first class, taken sick April 5, returned to duty April 15.

Cadet Ernest B. Gose, first class, was taken sick April 4 with diphtheria, and is now under treatment, convalescent. The rooms and clothing of these cadets, and that of their roommates, were, on the appearance of each case, immediately disinfected by burning sulphur and washing with solution bichloride of mercury, and every precaution taken by isolation and disinfection in hospital to prevent a further spread of the disease. There has been one case of diphtheritic scarlatina at the post during the month, in the person of the elder son of Maj. Spurgin; he is now convalescent.

One case of varioloid has occurred at the post during the month: the son (a child 8 years old) of Lieut. Weaver, being taken sick with the disease April 10, 1890. The case was slight, but well developed. The family were all promptly vaccinated, and all unprotected persons at the post have also since been vaccinated or revaccinated.

In my opinion the last 2 cases of disease were both caused by sewer gas. The water-closet in Maj. Spurgin's quarters is an old-fashioned pull-up closet like those in the cadet hospital, and is liable to leak in the same manner. His 2 other younger children have been several times sick with fever and sore throats since my arrival at the post.

The case of varioloid occurred in Lieut. Weaver's family immediately after the family had been quarantined for several weeks on account of fever with sore throats, which at first was feared might be scarlet fever, and while sewer gas was known to be permeating the house.

The amount of the water supply seems to be ample for all purposes; the insufficient supply in certain cases for flushing the water-closets being due to the need of modern style of water-closets with cisterns and proper flushing appliances.

The quality of the water supply is apparently good; that is, I know of no cases of disease that have occurred among officers and their families or cadets that could be attributed to the quality of their drinking water.

The number of water-closets and urinals at the post, however, supplied directly from the water pipes, are so numerous that under certain conditions it would seem possible the supply might be contaminated.

UNITED STATES MILITARY ACADEMY, WEST POINT, N. Y., SOLDIERS' HOSPITAL.—*Capt. W. F. Carter:* My inspections have been carefully made, and the following are the points to which it seems most necessary that your attention should be called:

(1) The waste pipe from the kitchen sink in the cavalry barracks is a small pipe (1½ or 1¼ inch), which passes into a large pipe (3½ or 4 inch), extending some few inches above the cement floor; the small pipe simply projects into the large one and has no close connection with it. The large pipe could not be examined beneath the floor, but in all likelihood it is provided with a trap somewhere between the end projecting into the room and the point at which it enters the main sewer or catch basin. At the time of my inspection there was a distinctly disagreeable odor escaping from the large pipe under the sink, and I was informed by the cook and sergeant in charge of the kitchen that they had at times noticed the same odor, especially when hot water was allowed to flow into the sink. It is probable that the offensive gas proceeds from the large pipe under the sink, or it is possible that it comes from the main sewer. The large pipe must inevitably become foul and offensive, since it can never be flushed or scoured by the small stream discharged into it by the 1½-inch pipe. This should receive attention, as in cold weather, when doors and windows are closed, the air of the apartment may become dangerously polluted.

(2) The waste pipe from one of the kitchen sinks in the artillery detachment barracks has been battered in near the floor so as to compromise the caliber of the pipe. This should be remedied, as the pipe will not be properly scoured unless a full stream of water be allowed to pass through it.

(3) It is recommended that the pit under the privy used by the band men and their

families be thoroughly flushed. This, I think, should be done as often as possible. Daily flushing during the hot weather would not do more than keep them fairly clean.

The examination so far made leads me to the conclusion that the entire sewerage system of the post is defective in construction and decidedly wrong in principle. There may be exceptions in the few instances of recent construction or repairs, in which the quartermaster has done the best that could be done in building up an old and defective system. It is not expected, however, that more can be done by the commanding officer and post quartermaster (apart from some slight changes or improvements here and there) than to repeat the recommendation which they have already made looking to the reconstruction of the entire system.

The house drainage, as far as I have examined, is radically wrong. In the barracks the waste pipes (which are generally lead pipes) from sinks and basins run for a greater or less distance to terminate in brick boxes or into the sewer itself. These waste pipes in some instances extend from a fixture across the entire length or width of the building, and in almost every instance pass directly to and under the floor (be it a plank, brick, or cement floor), by which they are concealed throughout the rest of their course. So concealed, these pipes may become defective and leaky without exciting suspicion. A striking illustration of this was afforded in the set of quarters which I now occupy. Upon the assignment of these quarters to me the quartermaster kindly offered to do all in his power with the limited means at his command to repair and improve the plumbing in the building. The waste pipes from the several fixtures in the house were renewed or repaired down to the floors, at which point they all disappeared from sight, passing under the floors to converge to a common brick basin (outside the building), into which a trapped branch from the sewer opens. After the workmen had gone thus far it was deemed advisable to determine the condition of the pipes under the floors; accordingly they were successively subjected to hydrostatic pressure by closing the outer ends and filling them with water. The first waste pipe tried was that from the kitchen sink, and it was found that the water receded almost as rapidly as it entered the pipe. The leak in this pipe was then looked for, and was found under the floor of the laundry room. The pipe at this point had been nearly cut in two, and by far the greater part of the waste from the sink had been discharged upon the ground under this floor. The soil under the floor space was to a great extent saturated with filthy, offensive matter, and the floor joists and flooring were more or less decayed.

In this particular case the fouling of the soil and decay of the woodwork had gone so far as to emit a decidedly disagreeable odor. Capt. Williams, assistant quartermaster, seconded by the Superintendent, Col. Wilson, was prompt in remedying the evil so far as possible; but he could not of course materially alter the plan of the plumbing without incurring considerable expense.

VANCOUVER BARRACKS, WASH.—*Maj. W. E. Waters:* The recent completion of three buildings, divided into water-closets and urinals for eight companies, provides substitution for all the old pit sinks connected with the barracks, a want that has been felt at this post for a long time. As none of the new water-closets have been referred to in detail in the monthly sanitary reports, I will furnish a brief description of each.

The following were completed in 1887: A water-closet, 21 yards in rear of the cavalry barracks, 6 feet by 18, and 14 feet high, with six iron hoppers and flushing tanks, and one urinal trough, flushed by perforated iron pipes. In the same year two new water-closets were constructed in one building, 18 feet by 19 feet, situated in rear of barracks No. 41. They are of the same size, one-half that of the building, and each contains Mott's iron privy sink. 17 feet long, with patent overflow plug and lever attachment, and one plain iron urinal, 6 feet long. There are six privy stalls in each.

There was built at the same time, and in connection with the new guardhouse, in 1888, a water-closet and bathroom, 20 feet in rear of the guardhouse, connected with it by a covered way, containing a Mott's iron privy sink, one iron urinal, and two bathing compartments, each containing an iron bath tub supplied with hot and cold water.

The following new water-closets have just been completed: One in rear of and contiguous to barracks Nos. 34 and 36, which is 22 by 19 feet, and 14 feet high, with cement floor, divided into three rooms, one for each of the barracks, and each furnished with a Mott's iron privy sink and the usual attachments, and an iron urinal with flushing attachment. Each water-closet contains five privy stalls.

A similar building, divided and supplied as the one just described, has been erected in the rear of barracks Nos. 38, 39, and 40. In the rear of barracks Nos. 45 and 46 is a smaller building, containing two rooms for water-closets and urinals for the occupants of the adjacent barracks, fitted up as the others built this year. These buildings are all of wood with substantial brick foundations, and painted in keeping with the barracks and making a sightly appearance.

WATER SUPPLIES.

The water supplies of the Army have been improved considerably during the past few years, so that medical officers have had progressively less and less to say about them until at last their reports become condensed into a satisfactory conjunction of adjectives such as "pure and plentiful," "excellent and ample," "sufficient and good." Of 79 posts at which reference is made to the water supply, the reports are of this brief but gratifying character in 59, and to only 3 of these has it been considered needful to enlarge by special remarks: (1) At Fort Washakie, Wyo., manure was packed about the distribution pipes to prevent freezing, and in certain instances this packing was carried for some distance under the building, making the ground air in such cases exceedingly offensive. This nuisance was in part abated by using sawdust to replace the original packing. (2) Analyses in the laboratory of the Surgeon-General's Office condemned 2 of the 3 wells at Watertown Arsenal, whereupon the commanding officer had these two closed; but the third is sufficient for the supply of the garrison. (3) Vancouver Barracks, Wash., formerly derived its supply from the water mains of the town and suffered by the increase of the civilian settlement without a corresponding expansion of the water system.* It is now independent of the municipal water-works, having 2 artesian wells, 2 pumps with a combined daily power of 650,000 gallons, a tank of 50,000, and a reservoir of 626,000 gallons; the last two are connected with each other, with both pumps and with the distribution pipes, so that if either well or either pump becomes inefficient the other continues the supply, and should both fail the mains may be filled from the town supply.

In 7 more of the 79 reports the water is said to be good; but, although in some of these instances, as at Fort Bennett, S. Dak., it is affirmed to be also ample, a doubt arises as to its sufficiency, inasmuch as it has to be wagoned from its source for distribution. Fort Bennett derives its ample supply from the Missouri. The water wagon is still an institution at Fort Sully, S. Dak., Eagle Pass, Tex., and Fort Du Chesne, Utah. It brings the supply of Fort Brady, Mich., from the city waterworks, and distributes from the artesian wells at Fort Sheridan, Ill. It also brought a supply of spring water for drinking at Fort Verde, Ariz., but that post was abandoned in December, 1890, and there are now but six posts at which the wagon is reported as in use.

In seven of the seventy-nine cases the supply is said to be insufficient, but in only one of these is a slur cast on its quality. (1) The exceptional instance occurs at Fort Schuyler, N. Y., where the cisterns and wells which furnish the water of doubtful wholesomeness are now being replaced by an artesian well. Rain water is always a good water if proper precautions are taken for its collection and storage. Its sufficiency depends upon the preservation of the proper relations between the garrison to be supplied on the one hand and the shedding surface in connection with the minimum rainfall on the other. When attention has been paid to all these conditions, as at Fort Gibson, Ind. T., and Jackson Barracks, La., the water is reported as good and plentiful, (2) but at Fort Barrancas, Fla., some of the points in relation to quantity have been apparently neglected as the supply has been deficient; at no time has there been a sufficiency for bathing. It has been suggested that a plentiful supply could be easily piped from springs about half a mile distant from the post or by sinking an artesian well, for such wells

* Vide report for 1889, p. 83.

have been a success in Pensacola and its vicinity. (3) The supply for Boisé Barracks, Idaho, was formerly wagoned from the Overland Hotel at Boisé City. Recently a main was laid from the waterworks, but this does not give a sufficient supply. (4) The drain on the pipes running through the city of St. Louis, Mo., reduced the water supply of Jefferson Barracks so that at times in June no water could be drawn from the hydrants; but as it was found that the pressure increased at night a sufficiency was obtained to give an imperfect flush to the closets and sewers and to permit a partial supply to be stored up for use on the following day. (5) Fort Leavenworth, Kans., is similarly dependent on its neighboring city for its water. On account of the costliness of the present supply, its liability to interruption by the needs of the city, and the possible danger of its contamination by the sewage of the post, which flows into the river above the intake, Colonel Woodhull suggested that it would be in the interest both of economy and sanitation to provide reservoirs and pumps for this important station. His recommendation meets with the approval of this office. (6) At Fort Assiniboine, Mont., the supply from Beaver Creek is so low during the autumn months as to be a source of much anxiety. Capt. La Garde thus describes the condition of affairs:

On account of the low stage of water in Beaver Creek the water contains a great deal of organic débris. Since the latter is a fruitful source of the malaria which prevails every autumn, I would recommend that the water for drinking purposes be boiled, aërated, and mixed with a liberal amount of ice. Ten per cent of the admissions this month are due to fever and ague.

In August he remarks: The question of the water supply for this large and important post demands the immediate attention of the authorities. In order to maintain the normal volume of water in Beaver Creek I recommend the construction of a number of dams at favorable points. By restraining water in the creek bed the underlying soil will remain more or less impermeable in dry seasons, like this, and the water from the mountains will reach the source of supply the year round. There was a dam thrown across the creek bed about 7 miles above the post two years ago that served a good purpose during last season. It was as late as the latter part of November before water came down in the dry season of 1885. Last year the season was again dry and the water came down during the latter part of September, as soon as the frost had destroyed all vegetation. The early appearance of the water last year as compared to the time it made its appearance in 1885, is, in my opinion, to be explained by the detention of water above the 7-mile dam. The bed above this point remained wet constantly and when the water came down it made its appearance near the source of supply at once, instead of being consumed on the way to fill the cracks and crevices that must have obtained in a dry bed. The volume of water can be increased only by surface and artesian wells. Several of the former kind are now in use, but the potability of their water is questionable since they are prone to cause bowel troubles. The commanding officer informs me that he has recommended an artesian well. If we should be so fortunate as to hit upon good drinking water from this source, the water supply of the post will then remain solved.

In September he states: Notwithstanding a number of good soaking rains during the early part of the month, the creek bed is as dry as it has ever been. The Chinaman's spring referred to in my last report, upon which the command has depended for its drinking water, is about to run dry. It is safe to say it will have stopped flowing two weeks hence. Unless active steps have been undertaken to increase the volume of water for this post, I would recommend that a board of officers be appointed to thoroughly investigate the subject, and to recommend what measures are best to insure a permanent water supply. No pains should be spared and no time lost in the inauguration of active steps to remedy this alarming state of affairs. The time is ripe for a full understanding of our situation, and I trust that a board may be sent to judge for itself. A plentiful supply of good potable water stands preëminent in determining the welfare and health of a community, and for that reason I deem the slender thread upon which we now depend to be fraught with danger.

The post commander in forwarding the preceding report says: "The flow of water from the spring upon which the post has for the past two months depended for its water supply is diminishing perceptibly, but by managing to utilize more of the flow and possibly a further development of the spring, it is hoped we may get along until the creek commences to flow."

The sanitary report for October contains a sketch showing springs in the vicinity

of the post. In this report Assistant Surgeon La Garde remarks: "The water from the Chinaman's spring is practically exhausted, and because of its liability to contamination, recommendation was made to haul water from a distance of 2½ miles above the present source, where a good stream is now flowing. * * * The prospects of abundant potable water at our original source are very good." Capt. and Assistant Surgeon Walter W. R. Fisher reports that there is a good flowing stream less than 3 miles from the post. In 1886 the water reached the post about November 28.

The seventh and last post at which an insufficiency is reported is Fort Warren, the most important defensive work in Boston Harbor. During the month of July the cistern supply gave out and it became needful to purchase water in Boston, transport it by boat to the island, and transfer it to the various cisterns by means of the post fire engine. The insufficiency at this important post could not be expressed with greater emphasis than by the statement of its failure when occupied by a merely nominal garrison, notwithstanding the exercise of the greatest care in husbanding its resources. Concerning this Capt. McCreery observes:

Money is being expended at present for the purpose of increasing the existing supply, but the work has been planned without a proper appreciation of the physical problem to be solved, and the expenditure when made will be without result. The use of sea water, by means of an extensive condensing plant, or the introduction of the city water, will be the only satisfactory method of overcoming the difficulty, and the preference should be given to the latter method. The city mains already extend to Long Island, thence to Galloupés; and thence to Fort Warren is a matter presenting but few engineering difficulties, and the water supply would be assured. The question is a grave one and deserves earnest consideration.

Doubt is thrown upon the quality of two of the seventy-nine supplies. (1) The camps and other settlements in the cañon above Fort Douglas, Utah, continue to interfere to some extent with the purity of the small stream which feeds the reservoir. (2) The water supply of Fort Apache, Ariz., is led from the creek, by a ditch, to the pump. According to Capt. W. C. Shannon—

The ditch is partly filled with mud and washings from the hill along which it passes. In many places the flow is obstructed by green, slimy moss, such as is seen in stagnant pools and frog ponds, lodged wood, twigs, and decaying leaves. It has been reported that the Mexicans, who have been making adobes along this waterway, use it for washing themselves and their clothing. This ditch also receives from the creek the irrigation water from the company gardens and Indian farms. Considering the filthy condition of the ditch, the inflow of polluted water from the gardens, etc., the uses to which the Mexicans put the water on its way to the post, it will be seen that the supply is unclean, unwholesome, distasteful, and disgusting. It is recommended that the ditch be at once cleaned, to remove all fungus growths and decaying matter, and to give the water a swifter current; that the Mexicans be moved to where they can not make use of the ditch as a lavatory and laundry. As to drainage from gardens and farms, it is impossible to suggest a remedy so long as the water supply is taken from the creek, as at present. The construction of the proposed supply (McMurray's system) should be hastened, that a wholesome water may be supplied to the many people whose health is jeopardized by the present conditions.

Three of the seventy-nine waters have been charged with the production of sickness: (1) At Fort Wadsworth, N. Y., the water, generally good, becomes brackish in June and December from admixture of sea water by high tides. At these times it is often unpalatable and causes diarrhœa. (2) The saline matters in the shallow wells dug in the bed of the San Carlos River, Arizona, occasionally induce diarrhœal attacks. (3) At Fort Elliott, Tex., there is stronger evidence of the production of disease by the water supply. The water was wagoned from a well, a spring, and from Sweetwater Creek. The well was near some old and disused privy vaults in the vicinity of the hospital. Typhoid fever appeared at the post and ceased after the development of thirteen cases on closing up the well.* This post was abandoned October 13, 1890.

*Vide *supra*, page 27.

FOOD AND COOKING.

The reports of the past year appear to show that the United States soldier has, as a rule, a sufficiency of good food properly cooked and presented in an inviting manner in the company mess halls; for when defects exist in relation to the ration or its preparation they are not usually overlooked by medical officers in their sanitary reports. A great improvement in the diet of the men has been made within the past year, so that complaints are infrequent and defects are due to local causes.

At Fort Stanton, N. Mex., complaints were made as to the quality of the beef issued during the winter and spring. The medical director of the department, after a personal examination of this post, became satisfied that in many instances the complaints were well founded and the beef of such quality as would warrant its rejection. Nevertheless, such beef is often received by the responsible officers, although provision for its rejection is found in the body of the contract made by the subsistence department. Boards of survey in some cases seem unwilling to mulct the contractor in the sum he would lose were his beef rejected and other beef purchased in open market. It is said in certain cases that if the poor beef is rejected the troops would be for that issue deprived of their meat ration because of the want of a market in which to buy, and therefore the contractor's supplies are accepted. This might be an excusable course where a single issue of beef is concerned, but it is not so where there is ground for continuous complaint. In such case a market might be looked for before hand.

If people in the neighborhood became aware of the facts and were told that on the next occurrence of the kind the beef would be rejected and other beef bought in open market, it is probable that some one would be found to make provision for the contingency, furnish the beef wanted, and charge such price as would compensate him for the risk he ran in providing it. The difference in price thus paid for a few times by the contractor or his sureties, as a penalty, would be the surest means to induce him to fulfill his contract.

At Jackson Barracks, La., the character and cooking of the ration were not considered satisfactory. The men complained of the cooking and of the insufficiency of the meat supply. The bread also was not good; the flour used had been kept in the bake house for several months and the warm moist atmosphere had caused changes in it that prevented the making of sweet, wholesome bread. The post commander, commenting on these criticisms, acknowledged the absence of competent cooks, and explained that the want of ice is the cause of much loss in the food supply. He said:

> The men of both companies have been getting all their rations and more too, for the company funds of both batteries have been constantly reduced by the purchase of food. In other words, the purchases of food have been greater than the savings. This can not last long, and as rations are limited in quantity and kind the men will have to abide the situation or else contribute to their mess fund as many other organizations do who who are stationed in the South. As soon as it has been in operation long enough the increase of the ration by 1 pound of fresh vegetables will, I think, mend matters.

This is the only suggestion of a contributed mess fund to be found in the reports save in those from Alcatraz Island, Cal., and camp at Eagle Pass, Tex., where exceptional conditions are present. Not long ago at many of the posts in Texas the companies had to eke out their supply of vegetables by assessment on the members. The post surgeon at Fort

Ringgold, Capt. W. F. Carter, explains the cause of this improved condition. He says:

We can but note the great benefit arising to the enlisted men under modern and progressive methods of dealing with the ration. The return of the savings upon bread to the company funds and the restriction of these funds to the purchase of food alone have secured a much better diet, and at no personal cost to the men as, in former years, when almost throughout the department the men paid for their potatoes from their private means. Another source of revenue to the food fund has resulted from the establishment of the post canteen. * * * The question, at least, of the means to purchase a suitable diet seems settled, and it can not but be sincerely hoped that the canteen is a permanent establishment in our Army, for it has brought a large measure of contentment and has proved an unexpected source of much needed revenue for the improvement of the diet of the troops.

The conditions at Alcatraz Island were reported by Capt. Dietz as follows:

The meat furnished to the various organizations has been of fair quality: it is probably as good as can be expected for the price, 5.36 cents per pound. One shipment to the prison, however, was condemned as unwholesome, a large abscess of the hip-joint being found by the board of survey. The bread issued is good. A constant and general complaint is made by prisoners that they do not get enough to eat, and my observation leads me to believe that this is a just one. The enlisted men in the batteries state that the regulation ration is insufficient: the proportion of pork is too large while that of beef is too small; and that in order to get enough to eat they have to maintain for each battery a mess fund, into which every man pays monthly from 50 cents to $1, the earnings of certain billiard tables being also covered into this fund. In connection with this, it is to be remembered that there are no vegetable gardens at the post, the products of which form such a desirable addition to the dietary of more favorably located garrisons.

The prison mess not having, as formerly, an income accruing from the proceeds of the shoe shop, tailor shop, carpenter shop, etc., is now limited to the bare army ration.

Later in the year Capt. Dietz expressed the satisfaction which the issue of vegetables by a recent order had given to the men of this garrison.

At Fort Niagara, N. Y., the local cause which interfered with the satisfactory character of the ration was the absence of a cellar under the bakehouse. Maj. A. C. Girard reported thus:

The bread is improving since a better grade of flour was obtained, but it can never be really good so long as the present makeshift of yeast cakes takes the place of properly fermented potato yeast. The objection seems to be the irregularity of the temperature in the rooms where the yeast is allowed to work, in absence of a cellar. That there should be no cellar in a newly built bakehouse is a strange oversight, but I believe the matter can be remedied by digging under the foundation from the outside. A cellar 6 by 6 by 6 would be large enough and remove the last impediment in the preparation of wholesome bread.

At the camp at Eagle Pass, Tex., the chief defects in the food supply appear to have arisen from the spoiled condition of certain of the canned supplies which were inadequate originally, a nine months' supply having been estimated for on the strength of the small garrison at the time the requisition was made, while at the time the supplies were being used the strength had been materially increased. The report of the post surgeon, Capt. Paul Clendenin, is as follows:

The rations of the men are good and are well cooked, being supplemented by vegetables from the troop garden at Fort Clark, and potatoes and onions purchased from the subsistence department. The pork is rarely eaten by the men, indeed it is rarely drawn from the commissary, being turned in at once, and there it remains to be issued and sold back again and again until it spoils, despite the utmost care for its preservation, and when it becomes offensive it is presented for the action of the board of survey, and later of an inspector, and thus disposed of. I venture to say that pork is a more expensive part of the ration than is bacon, which, by the way, is relished by the men, while the pork is repugnant to the vast majority of them, for the pork for the most part is finally condemned and thrown away. It is a matter of regret that there is no post garden at this camp, but the whole reservation lies on high ground back

from the river, and nothing will grow here without irrigation. The water supply is insufficient to furnish water for that purpose, nor is there material to build a fence around the garden. The hospital corps live very poorly here, and are compelled to contribute to their mess, and so do also the troops. A small number of men with but few sick find it very hard to manage the ration to advantage. The hospital corps gets no fresh vegetables but the few that are given them through the kindness of the troop.

The following remarks on the new mess hall at Jefferson Barracks show the advantages which a large garrison has over a small one, although both are provided with the same ration per man:

The new mess hall is now in successful operation, and is a decided improvement over the former company mess system. The food is well cooked and neatly served. The whole command sits down to the tables at the same time, without any confusion, and the uniformity in kind and quantity of food does away with any complaints as to the inequality or cooking which so frequently occur in the separate messes in companies serving at the same post.

General mess halls have been built and the messes are in operation at Davids Island, N. Y., Columbus Barracks, Ohio, Jefferson Barracks, Mo., and Fort Riley, Kans. The advantages of a large mess over a small one in improving the diet are evident when other things, such as the general management, cooking, and attendance, are equal. Inasmuch, however, as it is easier to provide capable stewardship and good cooks for small than for general messes, the chances are against the ultimate success of the latter, unless special care or means are taken to insure that the men on these important duties are fully qualified by previous training and experience. Maj. John Van R. Hoff gives expression to these views in a recent report, which shows the defects of the system as manifested at Fort Riley, Kans.:

Attention is respectfully invited to the fact that, while the quality and quantity of food supplied the command is above criticism, the cooking is not. As general messes are doubtless to become the custom at large posts, it would seem that sufficient experience must have by this time been had to justify them. But such experience certainly has not been gained at this post. After a trial of nearly two years I believe no man here can say that the advantages of a general mess outweigh its disadvantages; and I am sure I voice the opinion of every officer and man of this command when I assert that here at least the new system has not equaled the old.

This certainly has not been due to any lack of effort upon the part of the officers having the mess hall in charge, for no men could have labored harder than they in the accomplishment of a thankless task, but it is due, I believe, to a want of knowledge how to properly handle the enormous masses of food needed to feed a command of this size. To feed even fifty men requires knowledge and an effort. Multiply that number by ten and then not only adaptability to the work is needed but long experience as well. If there are to be general messes, there should be established a class of men—make them noncommissioned officers, if needs be—whose duties will correspond to those of the steward of a large hotel: there must be cooks, trained in the manipulation of large masses of food, there must be waiters. In a word, every general mess hall requires a corps of attendants which can not and should not be furnished by details from the command. The mess hall should indeed be a school of cookery, but the teachers should be experts and the scholars willing learners, not forced by the inexorable mandate of the company roster.

CLOTHING.

There are not many complaints concerning the clothing in the reports of this year, and such as are found are merely repetitions of those that have appeared frequently heretofore in the annual reports of the Surgeon-General of the Army. From Texas, Arizona, and other hot climates comes a call for lighter underclothing, and from the Dakotas, Wyoming, and the higher altitudes of the South, a call for drawers of a heavier nonconducting material. Capt. Clendenin, at Camp Eagle Pass, Tex. denounces the undershirt as too heavy and coarse to be comfortable in the climate of Texas for nine months of the year, and sug-

gests that during the three other months a light woolen shirt of finer quality than that now issued would not be too thin, inasmuch as the overshirt worn is heavy. A considerable number of the men purchase light cotton shirts for use during the greater part of the year, and this constitutes a serious drain on their scanty resources. Capt. P. E. Egan, from Fort McIntosh, Tex., presents similar views regarding the undershirt, adding that the Quartermaster's Department should furnish a gauze undershirt for use in Texas, as the irritation of the knitted undershirt is intolerable to most men, and keeps the skin in perspiration for months at a time. So also from Fort Gibson, Ind. T., Capt. Owen calls for lighter drawers and flannel shirts, while Capt. N. S. Jarvis realizes that there is something inconsistent, not to say unreasonable, in requiring troops at Fort Verde, Ariz., to wear canton flannel drawers and heavy woolen shirts and socks, such as are issued to those serving at posts in the far Northwest for use during the times that the cold waves are materializing. Like Capt. Clendenin, he states that most of the men purchase comfortable underclothes out of their slender income. On the other hand, Maj. Lauderdale, at Fort Ontario, N. Y., in giving credit to the Quartermaster's Department for furnishing clothing of good materials and suitable for winter wear in the cold and damp climate of his post, can not refrain from the suggestion that the drawers should be of heavy woolen stuff. Acting Assistant Surg. Holland and Capt. C. F. Mason echo this suggestion from Fort Pembina, N. Dak., and Fort Washakie, Wyo., respectively, the latter asserting that the insufficient protection of the limbs by the present garment is a prime factor in the production of rheumatism; and Maj. P. J. A. Cleary coincides in these views from Fort Wingate, N. Mex., adding that attention has been frequently invited to this subject.

Maj. Cleary is correct in his statement. If the records be examined it will be found that the medical officers of the Army have steadily and persistently denounced the idea of a uniformity that would give the same clothing, and insist upon its being worn, to troops on the burning sands of southern Arizona and to those in the zero temperatures of the Canada frontier. Col. Vollum has said: *

The subject of the clothing of troops in this semitropical region is a matter that evidently has not received the serious attention that its importance demands. No argument is needed to show that health requires cool, light clothing in a climate like that of the Lower Rio Grande Valley, which is one of the hottest regions in the world occupied by white troops.

In the early days of English occupation of India, the military commanders remained for a time stiff-necked against any departure from the home woolen uniform, which, owing to prejudice against change, was worn for some time even in southern India; but the suffering, inconvenience, and depressing effect of the heavy clothing, only suitable for the climate of England, in time caused a reform, and quite naturally the dust-colored light cloth of the natives was first put to use, but this gave way to white drill trousers and calico jackets, which are now used for fatigue purposes throughout Lower India, British West Indies, West Coast of Africa, Egypt, Hongkong, and all other points occupied by English troops in tropical and semitropical countries. Holland, Germany, France, and all other nations clothe their troops serving in hot countries about in the same manner as the English do in such climates.

The United States stands alone in the measure of forcing its troops to wear the same uniform during all seasons and in all latitudes: and in the twenty-four degrees embraced within the boundaries of our country there are some places as hot as any occupied by white troops anywhere in the world. In this tardiness in adapting the clothing of our troops to the climate, we stand about where the English did in the first days of their occupancy of India. * * *

Complaints of the oppressiveness of the heavy woolen uniform in this region in summer date back in my memory to 1853–1856, when I served in this State. At that time the unsuitableness of the uniform, which was about as heavy as it is now, was a constant topic for grumbling and discontentedness.

* Report of the Surgeon-General of the Army, 1887, p. 79.

Much has been gained since the *ante bellum* dates to which Col. Vollum refers: at first in the North and Northwest, where the intensity of the winter's cold called with appreciable urgency for the needful protection from it, and afterward in the South, where more slowly the necessity for the adaptation of clothing to climate was recognized; and now there seems little remaining to be accomplished other than to give a practical response to the requests of these medical officers for thinner and less irritating underwear in the South and a better protection for the lower limbs in the North. No doubt this will speedily be effected, and the Army of the United States, although scattered over so many degrees of latitude, with altitudes reaching as high as 7,500 feet above the sea level, and with temperatures as low and as high as those to which the troops of *all* other nations are exposed, will have a schedule of clothing which will be appropriate for every one of its subordinate commands.

Another point which has been frequently referred to by medical officers is the summer head covering, particularly in warm climates. Capt. Havard, from Fort Buford, N. Dak., states that—

> In my opinion the summer helmet could be improved in shape. The front brim or visor is too short to give such protection to the face as it should.

And Capt. Clendenin, at Camp Eagle Pass, Tex., goes more into detail on the subject:

> I desire to compare the regulation white helmet issued to enlisted men with a Chinese pith helmet worn by the officers at this camp when not on duty. The great advantage of the latter is the large crown with the distance from the head band to the wall of the helmet, and the wide brim shading the face and head all round. The disadvantage of the regulation helmet is that it does *not* shade the eyes, face, and neck; and the men do not like to wear it, judging from my own observation that they seldom do except when compelled to. The pith helmet is not as serviceable as the cork one, as it does not stand wetting, but a coating of shellac or other varnish would add considerably to its durability. A cork helmet with wider brim and greater air space would be an improvement on the present one, and would not weigh over 7 or at the most 8 ounces. As a rule the men when permitted to choose wear straw hats in preference to the white helmet, and, wherever I have served, commanding officers have not insisted on the helmet being worn except perhaps when on duty, knowing how uncomfortable a head gear it is, with *no provision for shade to the eyes* in the hot glare of the sun in Texas, not to mention the stiffness due to the small space between the head band and the unyielding wall of the crown. Such a helmet as I have suggested is, I know by personal experience, infinitely more comfortable than the regulation helmet, and is, from a sanitary point of view, better than either the present helmet or the straw hat, besides presenting a more soldierly appearance than the latter.

On this the post commander remarks:

> The white helmet is not what it might be, and is popular neither with officers nor men. *It has all the faults mentioned*, and is easily soiled and spoiled by one rain. Straw hats are light, cheap, and afford shelter from the sun. The men at the camp all wear the same pattern.

The italics in the above extract are not in the original, but have been placed there to show how they bear out the views of Capt. Havard. Looking at the page of the report of the Surgeon-General just cited, we find Capt. W. F. Carter stating that—

> The helmet would be the best covering for the head I know for this climate if it were made after the pattern of the English [Indian] helmet, but as issued to our troops it is cut too short in front and rear. It does not protect the face and neck.

And picking up the next report Capt. Macauley is found to express the same views:*

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* Report of the Surgeon-General of the Army, 1888, p. 116.

They also wore straw hats while I wore the regulation white helmet, which, although as cool as the straw where the head proper is concerned, is much heavier, and by reason of its faulty construction does not give the same protection to the face, ears, and neck.

These citations suffice to show that the defects of the helmet have been pointed out long before Capts. Havard and Clendenin referred to them during the past year. They should be remedied.

Two references to the regulation blouse are found in the reports: Maj. Pope, at Whipple Barracks, Ariz., considers that it is fitted so closely to the body as to impede respiration during exercise, particularly at high altitudes (his post is 5,340 feet above the sea level) and he suggests that lung expansion and abdominal movement should be unimpeded during exertion to avoid heart strain. He therefore recommends that during active drills, bayonet exercise, etc., the blouse be officially loosened about the neck, chest, and abdomen, and that the waist belt be fitted low down about the hips. Col. Woodhull's suggestion may, however, come in place here advantageously. He says:

The practice of allowing the guard to serve in their blue shirts, without coats, during the hot season, has conduced greatly to their comfort and is to be commended from a sanitary point of view. I hope the day may come when a shirt dress will supplant every form of coat for the rank and file under ordinary conditions of weather.

HABITS, CLEANLINESS, ETC.

Little is said in the sanitary reports concerning the habits of the men. More may be learned from a study of the prevalence of alcoholism and venereal diseases in the Army and at the various military stations than from the special reports of medical officers. One thing is certain, that drunkenness is on the decrease among our troops. The average annual rate per thousand of strength during the decade 1879–'88 was, among the white men, 62.22; during 1889, it was 45.64; and during 1890, 44.45. The colored soldier is seldom on sick report from this cause; his average annual rate during the decade was 4.42, the rate of last year was 2.07, and of the present year 5 59. The admission rate for venereal diseases among the white troops during the decade was 77.33 annually; it was above this average last year, but fell during 1890, to 72.02. Looking over the past twelve years there is seen to have been a manifest decrease in the prevalence of these foul and disabling disorders. The highest admission rate at any of the larger military posts was 462 per thousand men in 1889, and 380 in 1890. The number of men discharged from the Army annually on this account during the decade was 101.6; the number discharged in 1890, was only 71.

Every medical officer who refers to the canteen system approves of it with the exception of Capt. R. P. Ball, temporarily in charge at Fort Riley, Kans.:

The post surgeon is yet skeptical as to the sanitary value of the canteen. He has treated more cases of alcoholism and has sewed up more cut heads in a given time since its establishment than previous, and this does not argue in its favor. He is unable to see how giving the soldier double the quantity of beer for the same money can conduce to his sobriety and efficiency.

Capt. Ball's remarks would have more value as against the canteen if Fort Riley was a post with a reputation for alcoholism; but as a matter of fact it had just six cases of drunkenness during the year in its garrison of 649 men, or an admission-rate of 9.35 per 1,000 as compared with the average rate of the Army, 40.73. Only 13 posts had a better record in this respect, and 108 had a worse. (See Table XVII.)

These facts appear to argue in favor of the canteen, notwithstanding the views of Capt. Ball.

On the other hand, there are many such reports as the following:

FORT WINGATE, N. MEX.—*Maj. P. J. A. Cleary:* The habits of the men are generally clean and soldierly. Since the post trader was prohibited selling light wines and beer intemperance has markedly increased.

ALCATRAZ ISLAND, CAL.—*Capt. W. D. Dietz:* The canteen recently established is an appreciated innovation which will render the enlisted men more contented with the monotonous life at this rather circumscribed and lonely station.

FORT BENNETT, S. DAK.—*Acting Assistant Surgeon J. B. Ferguson:* The canteen system at this post, with the authorized sale of beer, has been a success. There has been no drunkenness from it, and I believe it makes the men more contented.

FORT BUFORD, N. DAK.—*Maj. Valery Havard:* There were four cases of alcoholism and four of venereal disease under treatment during the same month, the greatest number of both classes of cases recorded in any month this year. This sudden increase denotes a deterioration of habits due in my opinion to the exclusion of all alcoholic drinks from the canteen.

FORT HUACHUCA, ARIZ.—*Maj. J. H. Patzki:* The canteen has a beneficial effect upon the habits and contentment of the men.

FORT LEAVENWORTH, KANS.—*Maj. A. A. Woodhull:* It is worth remarking that there have been more cases of alcoholism (never very common here) under treatment within the past six weeks than for a long time before. Whether this has more than an incidental relation with the stoppage of the sale of beer in the canteen I can not tell.

FORT NIAGARA, N. Y.—*Maj. A. C. Girard:* A remarkable change has taken place in the habits of the men as to sobriety since the establishment of the canteen. Signs of intoxication are rarely to be seen, and the guardhouse is without occupants.

CAMP POPLAR RIVER, MONT.—*Lieut. J. D. Poindexter:* I am of the opinion that in this respect the influence of the canteen has been for good.

FORT WASHAKIE, WYO.—*Lieut. Charles T. Mason:* Though it would be difficult to show any direct effects of the canteen upon the health of the command, yet I am convinced that indirectly its influence has been favorable by giving the soldiers a place where they can meet socially and without unnecessary restraint, where they can obtain light refreshments when fatigued, and by keeping them from other objectionable places. I believe their habits and health are both improved by the existence of the canteen.

To determine the influence of the canteen on the habits of the men so far as the statistics of alcoholism would show it, the medical records of our military stations for the years 1889, 1890, as given in Table XVII, and 1891 up to June 30, were examined. Little value is to be attached to the record of a single post, as the canteen system may there be modified by more powerful local conditions, as in Kansas, according to Maj. Woodhull, by prohibition; but the aggregates of the Army might be expected to give testimony of some value. These aggregates appear to sustain the views of our medical officers who express themselves as in favor of the system. They show that the canteen has relieved our military posts of one-third of the cases of alcoholism that formerly tended to the demoralization of the individual, infractions of discipline, assaults, injuries, and death. They are presented below, together with the falling rates of a few of the posts. At Willets Point, a large post which has had a bad reputation for drunkenness, the impression made presumably by the canteen is distinctly marked.

	Annual admission rate for alcoholism per thousand of strength.		
	1889.	1890.	1891.
Posts with canteen	42.95	41.76	39.82
Posts without canteen	54.78	61.04	60.50
Willets Point, N. Y.	272.97	157.50	70.46
Fort Mackinac, Mich	197.52	127.66	70.18
Fort Spokane, Wash	118.72	80.00	50.96
Fort Wayne, Mich	44.95	113.74	41.16
Fort Hancock, Tex	130.43	40.82	39.22
Vancouver Barracks, Wash	104.44	73.81	31.96
Fort Hamilton, N. Y	78.95	35.35	25.52
Fort Bliss, Tex	93.22	16.26	18.34
Boisé Barracks, Idaho	79.22	28.57	16.80
Fort McIntosh, Tex	100.77	30.77	13.88
Presidio of San Francisco, Cal	114.05	28.57	8.68
Davids Island, N. Y	25.91	11.52	7.54
Columbus Barracks, Ohio	20.03	17.93	3.54
Jefferson Barracks, Mo	4.72	4.93	0.00
Mount Vernon Barracks, Ala	137.92	45.05	0.00
Fort Sherman, Idaho	40.65	77.21	0.00

From a few posts come complaints of the inadequacy of the facilities for personal cleanliness: but from the very infrequency of these complaints it will be appreciated that as a rule military stations are satisfactorily provided in this respect.

CAMP EAGLE PASS, TEX.—*Capt. Paul Clendenin:* There is but one bath tub for the troop of 50 or more men, and no means of heating the water. I am confident that the requirements of one bath weekly is not obeyed by the men, for some have come to me on sick report that to my positive belief have not bathed for a month. Moreover, I do not think a weekly bath sufficient for a cavalryman who grooms his horse twice daily and works about a dusty corral. He should be required to bathe at least twice a week in winter and every day in summer: and facilities should be provided for a daily bath for all if they wish. I would respectfully suggest that two additional tubs be provided, with a barrack stove and large water heater to be placed in the bath room, and that it be made the duty of the noncommissioned officer in charge of the quarters to see that the fire is kept up during the winter and during northers; that the water heater be kept filled, and that the men bathe frequently. I know that the average cavalryman despises the idea of bathing in warm water, thinking it effeminate: but it is difficult, if not impossible, to take an efficient bath hastily and shivering, and I am confident that men will bathe more frequently and more carefully when they can do so comfortably. An interesting point was brought out in my inquiry regarding bathing. It appears that many of the men will take a washtub and give themselves a sponge rather than go into the general bath tub which has been used by men with venereal diseases. On this the post commander indorses as follows: Until there is a better water supply I see no way to have better bathing facilities. * * * The tub in use exhausts the water supply, and this is the reason why the other tub was turned in. * * * The men bathe in the river, a thing I have encouraged, for every soldier should not only be able to swim, but have confidence in himself in the water. Noncommissioned officers in charge of squads have special instructions concerning baths and washing the feet, and although there may have been some cases of negligence I have not detected them. As a whole the men of this troop are the neatest and cleanest soldiers I have ever seen, and no sickness from any lack of bathing has come to my notice.

FORT DU CHESNE, UTAH.—*Capt. C. E. Price:* Very poor accommodations for bathing. Lack of bath tubs, lack of conveniencies for warming water, and room, and lack of privacy makes bathing uncomfortable, so I have no doubt it is frequently neglected. If the proposed waterworks, including bath tubs, are not to be put in very soon, tubs should be procured for the company at once.

FORT LOGAN, COLO.—*Capt. Charles Richards:* In the new guardhouse the bathing facilities are of but little use in cold weather, there being no means for heating water. The cleanliness of the prisoners is a sanitary necessity, and a hot-water supply should not be regarded as a luxury. All deserters who have been brought to this post have been exceedingly dirty and generally infested with vermin. That they may be properly cleaned they must be taken to one of the company bathrooms, where hot water is obtainable, thus inflicting injustice upon the men of the companies, who

run the risk of becoming infested with vermin. Some arrangement for supplying hot water could easily be introduced.

NEWPORT BARRACKS, KY.—*Capt. H. J. Raymond:* The bathing facilities for the enlisted men are wholly inadequate, there being about 80 soldiers dependent upon two bath tubs in the company quarters. Two additional tubs are needed. The hot-water supply is deficient, the water having to be heated in an ordinary wash boiler at times when the range is not otherwise occupied. The practical result is that bathing is neglected by many. Cleanliness of the skin conduces largely to the health, comfort, and contentment of any company or command. A boiler attachment to the kitchen range or ranges, with delivery pipes to the bath tubs, is recommended.

FORT PORTER, N. Y.—*Capt. E. F. Gardner:* The bathing facilities are not as good as they should be. In this climate a cold bath is an impossibility for nine men out of ten. The present facilities for heating water for bathing by boilers connected with the company kitchen stoves are not sufficient, as they can not furnish enough of hot water for more than two or three baths in the course of a day. Some kind of boiler for heating water should be put up in the barracks so as to furnish at all times an unlimited supply of hot water for bathing purposes for both companies.

FORT WASHAKIE, WYO.—*Lieut. C. F. Mason:* I desire to invite attention to the absence of any facilities for bathing in the company quarters. The hot springs, 2 miles away, are resorted to by the men for this purpose, but the distance is so great that they are not used with sufficient frequency during the winter months.

FORT BENNETT, S. DAK.—*Acting Assistant Surg. J. B. Ferguson:* To the need of a good bathing room for the use of the enlisted men attention is invited. The one in use, although better than none, is so small that there is scarcely room in it to turn around, and being only a shed attached to the quarters, built of old material and without any plastering, it can not be otherwise but cold and drafty in winter, and liable to increase the number of men on sick report with coughs, colds, etc.

FORT DOUGLAS, UTAH.—*Maj. W. D. Wolverton:* Additional bath tubs are required for the use of the troops at this post, placed in properly selected rooms. At present only one bath tub is provided for each company in any small alcove or open room available in the barracks, and usually protected from intrusion only by a small cloth screen. During winter the bathing places are not sufficiently warm to protect the men from dangerous exposure. Frequent bathing is necessary to the health and comfort of soldiers, and to insure this two bath tubs should be provided for the use of detachments or companies of more than 30 men, and three where companies or batteries number more than 50 men. On this report the medical director remarked:

Bathrooms should not be attached to separate company barracks in our large and permanent posts. It is much wiser and more economical to provide this facility in a building apart where the administration can be concentrated and direct. Such a building should, in my opinion, contain a swimming pool, and for the most part the ordinary bath tub should be dispensed with. In its stead the bath cell and water jet should be used both as more cleanly in practice, simple in design, and economical in use of water.

I strongly recommend the establishment at each post of a systematic course of athletic exercises to improve the physique of the men. Military drills have little influence in perfecting the physique, and after a time they become monotonous, and being looked upon as a task, fail to interest the men. Only one medical officer during the past year has referred to this subject in his reports, although I am aware that it has occupied the attention of many.

Lieut. CHAS. F. MASON, *Fort Washakie, Wyo.*, says: "During this winter systematic exercise in the gymnasium has been at times compulsory, and though the course was not maintained for a sufficient length of time to show any very marked change in the physique of the men, yet I am confident that during these periods there was much less willingness shown in appearing upon sick report. A compulsory graded course in gymnastics, under the supervision of a qualified officer, would be excellent preparation for the summer marches. Such a course should embrace walking, running, leaping, vaulting, and swimming, besides the exercise with fixed apparatus. It could be held through the winter and spring months, and would form a most useful and agreeable substitute for some of the monotonous and tiresome drills. There can be no doubt that such a course would result in a marked improvement in the physical condition of the soldier, and also in his cheerfulness and contentment. The modern soldier is liable to sudden calls for severe and prolonged strain, and he should be fitted for such emergencies by the development of the hard muscles, supple frame, and increased heart and lung power which properly regulated gymnastic exercise would give him."

The need for the systematic development of the physique of our troops is shown with emphasis by certain measurements of 161 colored men, 80 of the Tenth Cavalry, and 81 of the Twenty-fourth Infantry, taken by Capt. Edward Everts at Fort Apache, Ariz., in accordance with orders from headquarters of the department. The object of the order was to improve the physical condition of the soldiers by two months of systematic and well-directed exercise, and to demonstrate the results by accurate measurements taken before and after the gymnastic course. Unfortunately the full intent of the order was not carried out; the cause of this failure is not stated. The close inspection given to these men in taking their measurements shows that their physical condition was much below the proper standard. Stooping shoulders, sunken chests, soft and weak muscles, and heavy dull appearance were noted with startling frequency. The forced respiratory movement, as taken, represents imperfectly the possible respiratory action of the lungs in most cases.

	Average.	Maximum.	Minimum.
1. Age.....years..	30.1	57	21
2. Length of service.....do..	7.8	24	½
3. Weight*.....pounds..	147.92	224.5	108
4. Height*.....inch..	67.55	76.58	61 30
5. Circumference of neck†.....do....	14.49	16.69	12.44
6. Chest at inspiration‡.....do....	37.16	42.99	32.84
7. Chest at expiration.....do....	35.64	41.73	31.50
8. Chest movement.....do....	1.53	3.54	.12
9. Waist§.....do....	29.81	39.37	21.65
10. Circumference of biceps, fixed.....do..	12.72	16.06	10.39
11. Circumference of biceps, extended.....do....	11.38	14.21	9.13
12. Circumference of forearm, extended.....do....	11.06	13.54	9.74
13. Circumference of hips.....do....	35.03	38.66	31.93
14. Circumference of middle thigh.....do....	20.49	24.96	17.09
15. Circumference of calf.....do....	14.17	17.36	12.01

* Average of infantrymen: Weight 151.6 pounds, height 67.82 inches. Of cavalrymen 144.2 and 67.26. There were 9 men over 6 feet in height and 1 under 5 feet 3 inches.
† Below thyroid cartilage.
‡ Horizontally over or below nipples.
§ This and the measurements following it were taken at the largest circumference.

APPENDED PAPERS.

In closing I have the honor to invite attention to a series of tables which give in detail the statistical data on which the statements of this report are based. They consist of—

I. A numerical view of the effects of disease and injury on the Army during the calendar year 1890, as compared with the corresponding data of the year 1889 and of the decade ending December 31, 1888.

II. The relative sickness of the troops, white and colored, in the various military departments.

III. The military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury; also deaths and discharges, with ratios per thousand of strength for admissions and noneffectiveness, the averages of daily sickness, and the meteorological data for the year 1890.

IV. A general view of the results of disease and injury at each of the various military stations, arranged in the order of their mean strength.

V. Twenty posts having the highest rates of admission for the year; the said rates compared with those of 1885–'89, inclusive.

VI. Twenty posts having the highest rates of noneffectiveness during the year; the said rates compared with those of 1885–'89, inclusive.

VII. Twenty posts having the highest admission rates for *disease*, excluding venereal diseases, vaccina, and alcoholism, together with their ratios for deaths, discharges, and constant noneffectiveness; also the corresponding average rates of the Army.

VIII. Twenty posts having the highest noneffective rates for *disease*, excluding venereal diseases, vaccina, and alcoholism, together with the average number sick daily, and average duration of each case; also the corresponding average rates of the Army.

IX. The military posts in each department, showing the rates of admission, death, discharge, and noneffectiveness for *disease*, not including venereal diseases, vaccina, nor alcoholism.

X. The monthly prevalence of disease among the white and colored troops of the Army.

XI. The rates, per thousand of strength, of admission, death, discharge, and noneffectiveness of the Army and of the troops in the several departments for the year, as compared with those of the decade 1879–'88, and of certain foreign armies.

XII. Admission rates for specific febrile diseases in various armies.

XIII. Distribution of specific febrile diseases at United States military posts during the year.

XIV. The distribution of pneumonia at United States military posts during the year.

XV. Twenty posts giving the largest admission rates for malarial diseases, rheumatism, diarrhœal and venereal diseases, respectively.

XVI. Twenty posts giving the highest noneffective rates for malarial diseases, rheumatism, diarrhœal and venereal diseases, respectively.

XVII. The prevalence of alcoholism at the various posts and its influence on the effective force of the garrison.

XVIII. Showing the relation of certain classes of disease to arm of service and age of individual.

XIX. Showing the relation of certain classes of disease to nativity and length of service.

XX. Showing the relation of certain specified diseases to arm of service and age of individual.

XXI. Showing the relation of certain specified diseases to nativity and length of service.

XXII. The causes and ratios of rejection among 19,926 recruits examined during the year; white, 18,437, colored, 1,489.

Respectfully submitted.

CHARLES SUTHERLAND,
Surgeon-General.

Hon. REDFIELD PROCTOR,
Secretary of War.

APPENDED PAPERS.

STATISTICAL TABLES.

TABLE I.—*A numerical view of the effects of disease and injury on the Army during the calendar year* 1890, *as compared with the corresponding data from the reports of* 1889 *and of the decade* 1879-'88.

United States Army.	White.	Colored.	Total.
Average strengths as shown by returns of the Adjutant-General	*24,167	*2,517	*26,684
as shown by reports of the Medical Department	†21,910	†2,324	†24,234
All admissions to sick report during the year	29,519	4,027	33,546
treated in hospital	14,090	1,856	15,946
treated in quarters	14,298	2,067	16,365
treated in field	1,131	104	1,235
Ratios of all admissions per 1,000 of mean strength	1,347.28	1,732.79	1,384.25
for the previous year	1,318.67	1,280.93	1,315.02
for the preceding decade	1,528.91	1,688.32	1,544.23
Admissions for disease	24,333	3,307	27,640
ratios per 1,000 of mean strength	1,110.59	1,422.98	1,140.54
for the previous year	1,073.70	997.10	1,066.30
for the preceding decade	1,286.59	1,411.10	1,298.56
Admissions for injury	5,186	720	5,906
ratios per 1,000 of mean strength	236.69	309.81	243.71
for the previous year	244.96	283.82	248.72
for the preceding decade	242.32	277.22	245.67
Ratios per 1,000 of mean strength of cases treated in hospital	643.08	798.63	658
of cases treated in quarters	652.58	889.41	675.29
of cases treated in field	51.62	44.75	50.96
Number constantly noneffective during the year	924:38	110.76	1,035,14
ratios per 1,000 of mean strength	42.19	47.66	42.71
ratios for the previous year	44.44	41.09	44.12
ratios for the preceding decade	43.51	43.33	43.49
Number of days lost on account of sickness during the year	337,397	40,430	377,827
average for each man of the Army	15.4	17.4	15.6
for the previous year	16.2	15	16.1
for the preceding decade	15 9	15.8	15.9
Average number of days each case was treated	11.4	10	11.3
for the previous year	12.3	11.7	12.2
for the preceding decade	10.4	9.4	10.3
Average days treatment for patients returned to duty	10.0	8.4	9.8
discharged for disability	73.5	80.4	74.3
who died	23.4	32.7	24.6
Number of discharges for disability	542	72	614
ratios per 1,000 of mean strength	22.43	28.61	23.01
for the previous year	22.65	24.14	22.79
for the preceding decade	32.13	30.67	31.99
Number of discharges for disease	495	57	552
ratios per 1,000 of mean strength	20.48	22.65	20.69
for the previous year	19.33	22.22	19.61
for the preceding decade	28.40	26.29	28.20
Number of discharges for injury	47	15	62
ratios per 1,000 of mean strength	1.95	5.96	2.32
for the previous year	3.32	1.92	3.18
for the preceding decade	3.73	4.38	3.79
Number of deaths from all causes	203	29	232
ratios per 1,000 of mean strength	8.40	11.52	8.69
for the previous year	5.99	9.58	6.33
for the preceding decade	8.97	11.69	9.23
Number of deaths from disease	118	22	140
ratios per 1,000 of mean strength	4.88	8.74	5.25
for the previous year	3.64	6.90	3.95
for the preceding decade	5.85	7.16	5.98
Number of deaths from injury	85	7	92
ratios per 1,000 of mean strength	3.52	2.78	3.45
for the previous year	2.35	2.68	2.38
for the preceding decade	3.12	4.53	3.25

* Used in computing the ratios of deaths and discharges for the whole Army.
† Used in computing all ratios for the Army except those of deaths and discharges.

TABLE II.—*The relative sickness among the troops, white and colored, in the various military departments during the year* 1890.

Army by departments.		Mean strength of command.	Admissions during the year 1890. Quarters.	Hospital.	Field.	Disease.	Injury.	Total.	Admission rate per 1,000 of mean strength.	Troops per 1,000 of mean strength constantly noneffective from sickness
East	W..	5,463	3,618	4,545	84	75079	1,188	8,247	1,509.61	43.99
	C..	64	15	124	.....	130	9	139	2,171.87	112.11
	T..	5,527	3,633	4,669	84	7,189	1,197	8,386	1,517.28	44.77
Platte	W..	2,445	1,419	1,271	98	2,251	537	2,788	1,140.29	33.02
	C..	607	469	552	8	820	209	1,029	1,695.22	37.73
	T..	3,052	1,888	1,823	106	3,071	746	3,817	1,250.66	33.96
Dakota	W..	3,670	1,733	1,677	679	3,229	860	4,989	1,114.17	32.54
	C..	462	180	325	92	490	107	597	1,292.21	33.29
	T..	4,132	1,913	2,002	771	3,719	967	4,686	1,134.08	32.63
Missouri	W..	3,682	2,642	2,338	63	4,116	927	5,043	1,369.64	42.58
	C..	94	40	132	1	129	44	173	1,840.43	72.84
	T..	3,776	2,682	2,470	64	4,245	971	5,216	1,381.36	43.33
Texas	W..	2,095	1,793	1,558	55	2,922	484	3,406	1,625.78	50.75
California	W..	1,157	707	558	125	1,102	288	1,390	1,201.38	36.54
Columbia	W..	1,464	1,121	802	26	1,571	378	1,949	1,331.28	40.18
Arizona	W..	1,892	1,265	1,323	1	2,065	524	2,589	1,368.39	45.93
	C..	1,092	1,363	723	3	1,738	351	2,089	1,913.00	48.57
	T..	2,984	2,628	2,046	4	3,803	875	4,678	1,567.69	46.90
Hot Springs, Ark.	W..	42	.....	18	.....	18	.....	18	.....	.....
	C..	5	.....	.....	.....	.....	.....	.....	.....	.....
	T..	47	.....	18	.....	18	.....	18	.....	.....
At large: Miscellaneous deaths and discharges.	W..	.....	.....	.....	.....	.....	.....	.....	.....	.....
	C..	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for the Army	W..	21,910	14,298	14,090	1,131	24,333	5,186	29,519	1,347.28	42.19
	C..	2,324	2,067	1,856	104	3,307	720	4,027	1,732.79	47.66
	T..	24,234	16,365	15,946	1,235	27,640	5,906	33,546	1,384.25	42.71

Army by departments.		Deaths.	Annual death rate per 1,000 of mean strength.	Discharges for disability.	Annual discharge rate per 1,000 of mean strength.	Average duration of treatment among patients. Who died.	Discharged for disability.	Recovered.	Death rate per 1,000 of admissions.	Discharge rate per 1,000 of admissions.	Recoveries per 1,000 of admissions.	Average sick daily.	Average duration of treatment among all admissions.
East	W..	33	6.22	121	22.15	25.0	58.3	9.3	4.12	14.67	968.11	240.33	10.6
	C..	.....	.....	9	140.62	.....	44.7	14.7	.....	64.75	848.92	7.17	18.8
	T..	33	6.15	130	23.52	25.0	57.3	9.4	4.05	15.50	966.13	247.50	10.8
Platte	W..	18	7.36	32	13.09	32.9	78.8	9.5	6.46	11.48	978.48	80.74	10.6
	C..	7	11.53	12	19.77	31.7	82.1	6.7	6.80	11.66	988.34	22.90	8.1
	T..	25	8.19	44	14.42	32.6	79.7	8.6	6.55	11.53	981.14	103.64	9.9
Dakota	W..	51	13.90	60	16.35	7.5	74.2	9.3	12.47	14.67	950.84	119.44	10.7
	C..	4	8.66	9	19.48	18.2	85.2	7.4	6.70	15.08	934.67	15.38	9.4
	T..	55	13.31	69	16.70	8.3	75.7	9.1	11.74	14.72	948.78	134.81	10.5
Missouri	W..	42	11.41	93	25.26	21.4	65.1	10.1	8.33	18.44	965.50	156.78	11.3
	C..	2	21.28	7	74.47	17.5	34.3	15.4	11.56	40.46	947.98	6.85	14.4
	T..	44	11.65	100	26.48	21.3	62.9	10.2	8.44	19.17	964.92	163.63	11.5
Texas	W..	14	6.68	55	26.25	23.0	58.1	10.6	4.11	16.15	962.71	106.32	11.4
California	W..	3	2.59	35	30.25	166.3	71.8	9.3	2.16	25.18	958.27	42.28	11.1
Columbia	W..	11	7.51	30	20.49	25.5	77.0	9.2	5.64	15.39	972.29	58.82	11.0
Arizona	W..	13	6.87	59	31.18	45.5	72.5	10.1	5.02	22.79	972.58	86.90	12.3
	C..	15	13.74	29	26.56	33.0	77.2	7.0	7.18	13.88	957.87	53.04	9.3
	T..	28	9.38	88	29.49	38.8	74.0	8.7	5.99	18.81	966.01	139.94	10.9
Hot Springs, Ark.	W..	2	.....	27	.....	167.5	277.1	169.5	.....	.....	.....	32.76	.....
	C..	1	.....	4	.....	124.0	289.0	234.6	.....	.....	.....	5.42	.....
	T..	3	.....	31	.....	153.0	278.6	180.6	.....	.....	.....	38.19	.....
At large: Miscellaneous deaths and discharges.	W..	15	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....
	C..	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T..	15	.....	32	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for the Army	W..	202	8.40	542	22.43	23.4	73.5	10.0	6.84	18.36	967.55	924.38	11.4
	C..	29	11.52	72	28.61	32.7	80.4	8.4	7.20	17.88	961.51	110.77	10.0
	T..	231	8.69	614	23.01	24.5	74.3	9.8	6.89	18.30	966.82	1,035.14	11.3

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, also deaths and discharges, with ratios per thousand of strength for admissions and noneffectiveness, the averages of daily sickness, and meteorological data for* 1890.

DEPARTMENT OF THE EAST.

Names of stations.	Mean strength.	Cases. Disease.	Injury.	Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly noneffective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature. Mean.	Maximum.	Minimum.	Total precipitation.
										Feet.				*In.*
Adams, Fort, R. I	197	115	39	154	781.73	5.00	25.38	5	1	30	48.8	93	4	38.07
Allegheny Arsenal, Pa	29	16	4	20	689.66	.85	29.48	....	1	704	....	98	—2	53.02
Augusta Arsenal, Ga	26	23	1	24	923.08	1.70	65.54	2	....	600	66.4	102	23	42.98
Barrancas, Fort, Fla	86	128	16	144	1,674.42	5.03	58.49	1	2	30	69.9	96	25	61.15
Brady, Fort, Mich	95	107	14	121	1,273.68	2.99	31.49	....	....	600	....	88	—34	33.37
Columbus Barracks, Ohio	502	870	72	942	1,876.49	38.93	77.55	32	3	740	53.3	97	4	51.25
Columbus, Fort, N. Y	164	150	26	176	1,073.17	6.44	39.27	8	2	25	52.8	91	8	51.32
Davids Island, N. Y	434	625	88	713	1,642.86	22.76	52.45	5	2	30	50.3	92	4	46.69
Frankford Arsenal, Pa	38	50	3	53	1,394.74	1.83	48.16	1	2	50	54.2	99	7	33.88
Hamilton, Fort, N. Y	198	269	53	322	1,626.26	8.30	41.91	13	....	47	52.3	91	7	44.84
Indianapolis Arsenal, Ind	25	42	4	46	1,840.00	1.42	56.99	1	....	698	54.0	97	4	54.87
Jackson Barracks, La	92	166	33	199	2,163.04	6.50	70.64	2	2	10	..	97	25	52.60
Kennebec Arsenal, Me	15	27	2	29	1,933.33	.39	26.48	...	1	200	41.3	88	—20	32.66
McHenry, Fort, Md	99	117	20	137	1,383.84	6.31	63.73	5	....	36	56.6	98	12	46.96
McPherson, Fort, Ga	188	408	60	468	2,489.36	11.50	61.16	1	2	1,078	..	101	10	45.82
Mackinac, Fort, Mich	94	125	26	151	1,606.38	2.51	26.73	2	....	728	40.2	81	—14	28.50
Madison Barracks, N. Y	218	295	51	346	1,395.16	7.56	30.50	1	1	262	..	100	—19	32.14
Monroe, Fort, Va	433	633	107	740	1,709.01	19.93	46.04	3	1	8	60.7	96	22	46.97
Mount Vernon Barracks, Ala	111	157	12	169	1,522.52	7.61	68.57	1	2	155	66.6	101	20	48.97
Myer, Fort, Va	137	154	31	185	1,350.36	5.10	37.20	2	2	200	55.3	99	12	39.31
Newport Barracks, Ky	62	89	18	107	1,725.81	3.22	51.92	1	....	588	55.6	96	7	47.88
Niagara, Fort, N. Y	114	103	26	129	1,131.58	3.28	28.74	2	2	271	49.4	97	7	34.62
Ontario, Fort, N. Y	43	67	6	73	1,697.67	2.15	49.89	4	....	282	45.6	93	0	40.86
Plattsburg Barracks, N. Y	47	58	8	66	1,404.26	1.64	34.92	1	..	186	....	....	—15	37.39
Porter, Fort, N. Y	95	82	14	96	1,010.53	3.13	33.28	1	1	660	47.1	89	7	46.55
Preble, Fort, Me	54	57	15	72	1,333.33	1.72	31.91	....	....	38	..	....	....	48.25
Sandy Hook, N. J	32	47	11	58	1,812.50	.55	17.04	....	....	....	52.8	91	8	51.32
Schuyler, Fort, N. Y	78	51	17	68	871.79	2.62	33.58	2	....	25	53.8	95	6	52.30
Springfield Armory, Mass	28	13	2	15	535.71	.56	20.06	...	1	250	48.7	95	0	54.88
St. Francis Barracks, Fla	65	116	15	131	2,015.38	4.34	66.76	4	....	15	..	95	28	52.27
Thomas, Fort, Ky	31	33	7	40	1,290.32	.51	16.35	....	....	....	55.6	96	7	47.88
Trumbull, Fort, Conn	52	44	14	58	1,115.38	1.78	34.19	1	..	25	51.8	95	5	47.70
Wadsworth, Fort, N. Y	111	100	19	119	1,072.07	3.30	29.69	1	1	140	53.1	97	7	53.92
Warren, Fort, Mass	86	69	21	90	1,046.51	2.98	34.63	1	1	38	45.8	90	2	41.79
Washington Barracks, D. C	255	287	52	339	1,329.41	13.22	51.86	17	1	106	55.9	99	15	35.07
Watertown Arsenal, Mass	33	31	4	35	1,060.61	.79	23.91	....	....	100	49.1	95	0	50.21
Watervliet Arsenal, N. Y	60	64	18	82	1,366.67	1.47	24.57	2	....	50	..	97	—8	44.90
Wayne, Fort, Mich	211	250	33	283	1,341.23	7.98	37.84	3	..	580	46.9	97	3	38.44
West Point, N. Y	378	458	96	554	1,465.61	11.63	30.77	1	1	167	47.3	98	—1	50.16
Willets Point, N. Y	400	604	121	725	1,812.50	17.24	43.10	4	1	80	52.2	92	—2	.....
Wood, Fort, N. J	46	21	2	23	500.00	.13	2.92	....	....	....	52.8	91	8	51.32
Field	35	68	16	84	2,400.00	.55	15.58	....	....	....	..	....	....	.....
Total	5,527	7,189	1,197	8,386	1,517.28	247.50	44.78	130	34	.....	.....	.....	.....	.....

DEPARTMENT OF DAKOTA.

Abraham Lincoln, Fort, N. Dak.	95	95	26	121	1,273.68	3.04	31.95	2	....	1,914	41.4	105	—34	18.11
Assiniboine, Fort, Mont	437	475	90	565	1,292.91	15.56	35.61	10	1	2,720	41.0	99	—40	9.76
Bennett, Fort, S. Dak	58	45	6	51	879.31	1.55	26.64	....	2	1,510	46.6	107	—28	13.59
Buford, Fort, N. Dak	259	219	60	279	1,077.22	8.51	32.86	5	1	1,930	39.8	100	—43	14.24
Custer, Fort, Mont	331	385	72	457	1,380.66	19.17	57.91	6	..	3,040	45.2	100	—34	9.66
Keogh, Fort, Mont	347	167	67	234	674.35	8.90	25.66	1	1	2,506	42.3	105	—47	11.52
Maginnis, Fort, Mont	76	110	22	132	1,736.84	3.45	45.35	2	1	4,340	(*)	(*)	(*)	(*)
Meade, Fort, S. Dak	308	213	50	263	853.90	10.89	35.34	7	2	3,624	46.4	101	—29	16.23
Missoula, Fort, N. Dak	168	177	39	216	1,285.71	4.86	28.93	3	1	3,375	43.1	104	—18	13.39
Pembina, Fort, N. Dak	75	50	10	60	800.00	1.15	15.38	....	....	900	38.3	97	—46	.....
Pierre, Fort, S. Dak	34	30	3	33	970.59	.82	24.01	....	1	.....	(*)	(*)	(*)	(*)
Poplar River, Camp Mont.	97	151	22	173	1,783.51	3.25	33.47	....	2	2,030	39.7	99	—46	11.20

* No reports.

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, etc.*—Continued.

DEPARTMENT OF DAKOTA—Continued.

Names of stations.	Mean strength.	Cases. Disease.	Injury.	Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly noneffective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations	Temperature. Mean.	Maximum.	Minimum.	Total precipitation.
										Feet.				*In.*
Randall, Fort, S. Dak	102	103	20	123	1,205.88	3.55	34.76	....	....	1,245	48.5	104	—24	14.04
Shaw, Fort, Mont	159	154	28	182	1,144.65	5.58	35.06	4	2	3,550	45.0	101	—39	12.31
Sheridan, Camp, Wyo	65	60	22	82	1,261.54	2.56	39.41	2	....	....	....	91	—30	28.43
Snelling, Fort, Minn	290	235	90	325	1,120.68	10.36	36.42	8	4	840	42.7	98	—22	28.86
Sully, Fort, S. Dak	112	83	22	105	937.50	3.89	34.74	3	1	1,678	45.8	103	—30	13.28
Totten, Fort, N. Dak	65	61	6	67	1,030.77	2.08	32.03	....	....	1,487	(*)	(*)	(*)	(*)
Yates, Fort, N. Dak	287	376	71	447	1,557.49	14.68	51.14	12	1	1,670	43.9	101	—28	15.71
Field	767	530	241	771	1,005.22	10.79	14.06	1	35	....	....	....	....	....
Total	4,132	3,719	967	4,686	1,134.08	134.81	32.63	69	55	....	....	....	....	....

*No reports.

DEPARTMENT OF THE PLATTE.

Bridger, Fort, Wyo	142	113	37	150	1,056.34	4.36	30.68	....	1	6,670	....	92	—30	....
D. A. Russell, Wyo	348	289	77	366	1,051.72	9.61	27.61	4	2	6,021	45.1	104	—31	17.99
Douglas, Fort, Utah	423	369	93	462	1,092.20	15.80	37.36	4	3	4,904	51.9	100	— 6	11.24
Du Chesne, Fort, Utah	260	316	73	389	1,496.15	8.27	31.81	5	....	....	46.9	100	—23	5.50
Government Sawmill, Utah.	14	11	8	19	1,357.14	.19	13.89	....	....	....	(*)	(*)	(*)	(*)
Laramie, Fort, Wyo	14	30	2	32	2,285.71	.30	21.72	....	....	4,241	(*)	(*)	(*)	(*)
McKinney, Fort, Wyo	146	96	28	124	849.32	4.49	30.76	1	1	5,175	46.4	97	—22	8.98
Niobrara, Fort, Nebr	378	452	103	555	1,468.25	12.39	32.78	4	2	2,750	43.8	108	—34	14.79
Omaha, Fort, Nebr	415	231	48	279	672.29	13.21	31.83	15	3	960	51.1	101	—12	22.45
Pilot Butte, Camp, Wyo	78	88	23	111	1,423.08	2.11	27.01	....	1	....	41.4	94	—28	7.20
Robinson, Fort, Nebr	393	632	113	745	1,895.67	17.49	44.51	3	10	3,675	..	102	—23	11.76
Sidney, Fort, Nebr	204	199	54	253	1,240.20	9.00	44.12	5	1	4,326	..	103	—13	....
Washakie, Fort, Wyo	111	175	51	226	2,036.04	5.55	49.98	3	....	5,462	43.1	93	—24	7.74
Field	126	70	36	106	841.27	.87	6.87	....	1	....	....	....	....	....
Total	3,052	3,071	746	3,817	1,250.66	103.64	33.96	44	25	....	....	....	....	....

DEPARTMENT OF THE MISSOURI.

Crawford, Fort, Colo	67	58	15	73	1,089.55	1.84	27.52	2	....	6,200	....	92	—11	....
Chicago, Headquarters Division of the Missouri	58	16	....	16	275.86	.82	14.22	1	2	661	48.8	96	— 5	32.69
Elliott, Fort, Tex	122	201	41	242	1,983.61	9.36	76.71	3	3	2,650	(*)	(*)	(*)	(*)
Gibson, Fort, Ind. T	47	21	1	22	468.09	1.15	24.37	....	1	600	(*)	(*)	(*)	(*)
Guthrie, Camp, Okla	43	42	13	55	1,279.07	1.37	31.86	1	....	....	62.2	108	6	30.02
Jefferson Barracks, Mo	406	346	60	406	1,000.00	15.69	38.65	17	2	475	57.1	101	1	35.32
Leavenworth, Fort, Kans	586	587	150	737	1,257.68	31.59	53.91	24	9	844	52.2	98	— 8	27.80
Leavenworth, Prison Guard, Kans	115	100	8	108	939.13	2.13	18.53	2	....	844	52.2	98	— 8	27.80
Lewis, Fort, Colo	198	199	62	261	1,318.18	8.64	43.66	3	4	8,500	44.3	89	—17	24.27
Little Rock Barracks, Ark	59	90	12	102	1,728.81	3.35	56.70	2	2	290	62.8	97	16	63.72
Logan, Fort, Colo	278	283	55	338	1,215.83	16.26	58.49	....	6	....	51.1	97	—11	7.84
Oklahoma, Camp, Okla	78	65	23	88	1,128.21	3.09	39.62	..	1	....	(*)	(*)	(*)	(*)
Reno, Fort, Okla	296	460	109	569	1,922.30	16.73	56.53	6	4	3,200	60.4	105	0	26.79
Riley, Fort, Kans	642	617	207	824	1,283.49	23.40	36.45	11	4	1,300	54.0	103	—12	22.09
Rock Island Arsenal, Ill	60	80	9	89	1,483.33	1.82	30.37	3	1	528	49.7	102	—11	33.49
Sheridan, Fort, Ill	101	86	12	98	970.30	2.25	22.30	2	1	....	48.5	98	— 7	38.94
Sill, Fort, Okla	330	717	125	842	2,551.52	15.65	47.41	12	4	1,200	61.0	103	6	30.90
St. Louis, Headquarters Dept. of the Missouri	32	3	....	3	93.75	.06	1.88	....	....	....	56.8	98	4	37.69
Supply, Fort, Ind. T	209	223	56	279	1,334.93	7.59	36.32	8	....	2,300	....	105	— 1	....
Field	49	51	13	64	1,306.12	.82	16.77	3	..	....	....	....	....	....
Total	3,776	4,245	971	5,216	1,381.36	163.61	43.33	100	44	....	....	....	....	....

*No reports.

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injuries, etc.*—Continued.

DEPARTMENT OF TEXAS.

Names of stations.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly noneffective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature.			Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	
										Feet.				*In.*
Bliss, Fort, Tex	123	106	14	120	975.61	2.76	22.47	6	....	3,600	65.0	103	15	.....
Brown, Fort, Tex	135	202	52	254	1,881.48	8.81	65.23	3	1	50	....	96	29	.....
Clark, Fort, Tex	481	701	102	803	1,669.44	31.38	65.25	17	3	1,000	...	100	24	21.66
Davis, Fort, Tex	201	210	37	247	1,228.86	10.11	50.80	2	1	4,928	(*)	(*)	(*)	(*)
Del Rio, Camp, Tex	13	21	.. ..	21	1,615.38	.34	26.34	....	....	820	(*)	(*)	(*)	(*)
Eagle Pass, Camp at, Tex	56	91	24	115	2,053.57	3.34	59.59	1	....	800	71.8	107	17	21.09
Hancock, Fort, Tex	49	45	13	58	1,183.67	2.20	44.95	1	....	3,000	62.1	107	7	4.89
Langtry, Camp, Tex	13	10	3	13	1,000.00	.43	33.09	....	....	....	(*)	(*)	(*)	(*)
McIntosh, Fort, Tex	130	83	13	96	738.46	3.29	25.31	1	3	380	72.2	102	23	15.74
Pena Colorado, Camp, Tex	54	36	7	43	796.30	1.07	19.74	....	....	3,800	62.5	103	11	.....
Ringgold, Fort, Tex	119	86	17	103	865.55	3.17	26.61	1	1	521	74.2	107	20	13.43
Sam Houston, Fort, Tex	606	1,285	188	1,473	2,430.69	38.33	63.25	23	5	781	69.5	99	21	29.77
San Antonio, Hdqrs. Department of Texas	32	5	.....	5	156.25	.13	3.94	....	....	781	69.5	99	21	29.77
Field	83	41	14	55	662.65	.87	10.53	....	....	....	....	....	....	.....
Total	2,095	2,922	484	3,406	1,625.78	106.33	50.75	55	14	....	....	....	....	.....

* No reports.

DEPARTMENT OF CALIFORNIA.

Alcatraz Island, Cal	92	86	13	99	1,076.09	4.09	44.43	2	....	136	53.4	85	26	23.33
Angel Island, Cal	188	139	34	173	920.21	5.16	27.44	9	1	.....	55.4	91	29	19.55
Benicia Arsenal, Cal	52	32	8	40	769.23	1.40	26.87	3	1	64	57.7	100	27	22.78
Benicia Barracks, Cal	76	84	13	97	1,276.32	3.19	42.03	2	....	64	57.7	100	27	22.78
Bidwell, Fort, Cal	71	83	18	101	1,422.54	1.65	23.31	1	....	4,680	(*)	(*)	(*)	(*)
Gaston, Fort, Cal	40	39	7	46	1,150.00	1.10	27.40	1	....	397	55.1	105	24	57.98
Mason, Fort, Cal	64	56	10	66	1,031.25	2.72	42.51	4	....	113	54.4	81	35	23.42
Presidio of San Francisco, Cal	455	488	155	643	1,413.19	20.91	45.96	11	1	60	....	84	28	.....
Field	119	95	30	125	1,050.42	2.06	17.31	2	....	....	....	....	....	.....
Total	1,157	1,102	288	1,390	1,201.38	42.28	36.54	35	3	.....	....	....	....	.....

* No reports.

DEPARTMENT OF COLUMBIA.

Boisé Barracks, Idaho	105	95	26	121	1,152.38	3.47	33.01	2	....	2,880	49.1	106	-12	11.22
Canby, Fort, Wash	63	55	16	71	1,126.98	1.59	25.22	1	....	179	49.8	85	17	53.95
Klamath, Fort, Oregon	5	5	....	5	1,000.00	.10	20.27	....	....	4,200	(*)	(*)	(*)	(*)
Sherman, Fort, Idaho	272	407	93	500	1,838.24	12.01	44.15	5	3	2,198	47.0	98	-27	.....
Spokane, Fort, Wash	200	193	59	252	1,260.00	8.91	44.55	6	1	1,600	47.0	10	5 -22	13.86
Townsend, Fort, Wash	58	37	11	48	827.59	.97	16.77	....	....	135	49.1	84	9	19.95
Vancouver Barracks, Wash	420	425	84	509	1,211.90	16.39	39.02	9	6	50	50.7	99	3	37.97 (*)
Walla Walla, Fort, Wash	318	334	83	417	1,311.32	15.17	47.71	7	1	1,018	51.5	106	-13	11.01
Field	23	20	6	26	1,130.43	.22	9.41	....	....	....	....	....	....	.....
Total	1,464	1,571	378	1,949	1,331.28	58.82	40.18	30	11	.....	....	....	....	.....

* No reports.

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, etc.*—Continued.

DEPARTMENT OF ARIZONA.

Names of stations.	Mean strength.	Cases. Disease.	Injury.	Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly noneffective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations	Temperature. Mean.	Maximum.	Minimum.	Total precipitation.
										Feet.				*In.*
Apache, Fort, Ariz	242	469	105	574	2,371.90	13.43	55.51	11	4	5,050	55.3	97	8	26.72
Bayard, Fort, N. Mex	292	364	69	433	1,482.88	15.15	51.89	7	4	6,040	....	94	9	15.86
Bowie, Fort, Ariz	119	185	54	239	2,038.40	4.76	39.99	1	....	4,826	60.9	95	18	17.65
Grant, Fort, Ariz	327	589	133	722	2,207.95	16.45	50.30	5	7	4,856	61.5	96	19	16.74
Huachuca, Fort, Ariz	275	153	40	193	701.82	6.05	22.02	7	1	5,173	...	98	11	...
Lowell, Fort, Ariz	170	165	42	207	1,217.65	5.82	34.25	7	1	2,530	67.3	109	20	20.23
McDowell, Fort, Ariz	52	42	11	53	1,019.23	1.63	31.35	1	...	1,800	(*)	(*)	(*)	(*)
Marcy, Fort, N. Mex	110	103	30	133	1,209.09	3.45	31.36	1	1	6,846	49.5	92	−4	12.11
Mojave, Fort, Ariz	28	44	5	49	1,750.00	2.11	75.24	....	....	600	(*)	(*)	(*)	(*)
San Carlos, Ariz	250	340	52	392	1,568.00	8.80	35.21	7	1	2,156	64.3	109	20	18.62
San Diego Barracks, Cal	61	71	9	80	1,311.48	7.47	122.48	5	2	150	62.6	90	34	7.83
Selden, Fort, N. Mex	17	16	1	17	1,000.00	.36	21.43	1	1	4,250	(*)	(*)	(*)	(*)
Stanton, Fort, N. Mex	133	168	53	221	1,661.65	9.02	67.83	4	2	7,500	52.7	90	6	11.87
Thomas, Fort, Ariz	106	135	22	157	1,481.13	3.76	35.49	....	1	2,710	64.9	108	18	13.93
Union, Fort, N. Mex	142	75	35	110	774.65	3.77	26.53	2	....	6,700	46.6	95	−4	14.73
Verde, Fort, Ariz	52	37	9	46	884.62	1.12	21.44	3	....	3,160	(*)	(*)	(*)	(*)
Whipple Barracks, Ariz	241	329	77	406	1,684.65	14.89	61.80	14	1	5,340	(*)	(*)	(*)	(*)
Wingate, Fort, N. Mex	359	516	126	642	1,788.30	21.84	60.84	12	2	6,649	51.6	98	−8	.....
Field	8	2	2	4	500.00	.05	6.51	....	..	....	....	....	....	.....
Total	2,984	3,803	875	4,678	1,567.69	139.94	46.89	88	28	....	....	....	....	.....

* No reports.

TABLE IV.—*Giving a general view of the results of disease and injury at each of the various military stations, arranged in the numerical order of their mean strength.*

GROUP 1.—Fourteen stations, garrisoned by 400 to 700 men each. Average, 474.

Military stations.	Mean strength.	Admissions. No.	Admissions. Ratio per 1,000.	Constantly noneffective. No.	Constantly noneffective. Ratio per 1,000.	Deaths. No.	Deaths. Ratio per 1,000.	Discharges. No.	Discharges. Ratio per 1,000.
Fort Riley, Kans	642	824	1,283.49	23.40	36.45	4	6.23	11	17.13
Fort Sam Houston, Tex	606	1,473	2,430.69	38.32	63.25	5	8.25	23	37.95
Fort Leavenworth, Kans	586	737	1,257.68	31.59	53.91	9	15.36	24	40.96
Columbus Barracks, Ohio	502	942	1,876.49	38.93	77.55	3	5.98	32	63.75
Fort Clark, Tex	481	803	1,669.44	31.38	65.25	3	6.24	17	35.34
Presidio, San Francisco, Cal	455	643	1,413.19	20.91	45.96	1	2.20	11	24.18
Fort Assiniboine, Mont	437	565	1,292.91	15.56	35.61	1	2.29	10	22.88
Davids Island, N. Y	434	713	1,642.86	22.76	52.45	2	4.61	5	11.52
Fort Monroe, Va	433	740	1,709.01	19.93	46.04	1	2.31	3	6.93
Fort Douglas, Utah	423	462	1,092.20	15.80	37.36	3	7.09	4	9.46
Vancouver Barracks, Wash	420	509	1,211.90	16.39	39.02	6	14.29	9	21.43
Fort Omaha, Nebr	415	279	672.29	13.21	31.83	3	7.23	15	36.14
Jefferson Barracks, Mo	406	406	1,000.00	15.69	38.65	2	4.93	17	41.87
Willets Point, N. Y	400	725	1,812.50	17.24	43.10	1	2.50	4	10.00
Summary	6,640	9,821	1,479.07	321.13	48.36	44	6.63	185	27.86

TABLE IV.—*Giving a general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP 2.—Eleven stations garrisoned by 300 to 400 men each. Average, 347.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Robinson, Nebr	393	745	1,895.67	17.49	44.51	10	25.45	3	7.63
Fort Niobrara, Nebr	378	555	1,468.25	12.39	32.78	2	5.29	4	10.58
West Point, N. Y	378	554	1,465.61	11.63	30.77	1	2.65	1	2.65
Fort Wingate, N. Mex	359	642	1,788.30	21.84	60.82	2	5.57	12	33.43
Fort D. A. Russell, Wyo	348	366	1,051.72	9.61	27.61	2	5.75	4	11.49
Fort Keogh, Mont	347	234	674.35	8.90	25.66	1	2.88	1	2.88
Fort Custer, Mont	331	457	1,380.66	19.17	57.91	.....	.....	6	18.13
Fort Sill, Okla	330	842	2,551.52	15.65	47.41	4	12.12	12	36.36
Fort Grant, Ariz	327	722	2,207.95	16.45	50.30	7	21.41	5	15.29
Fort Walla Walla, Wash	318	417	1,311.32	15.17	47.71	1	3.14	7	22.01
Fort Meade, S. Dak	308	263	853.90	10.89	35.34	2	6.49	7	22.73
Summary	3,817	5,797	1,518.73	159.18	41.70	32	8.38	62	16.25

GROUP 3.—Nineteen stations garrisoned by 200 to 300 men each. Average, 251.

Fort Reno, Ind. T	296	569	1,922.30	16.73	56.53	4	13.51	6	20.27
Fort Bayard, N. Mex	292	433	1,482.88	15.13	51.89	4	13.70	7	23.97
Fort Snelling, Minn	290	325	1,120.69	10.56	36.42	4	13.79	8	27.59
Fort Yates, N. Dak	287	447	1,557.49	14.68	51.14	1	3.48	12	41.81
Fort Logan, Colo	278	338	1,215.83	16.26	58.49	6	21.58	.....	.....
Fort Huachuca, Ariz	275	193	701.82	6.05	22.02	1	3.64	7	25.45
Fort Sherman, Idaho	272	500	1,838.24	12.01	44.15	3	11.03	5	18.38
Fort Du Chesne, Utah	260	389	1,496.15	8.27	31.81	.....	.....	5	19.23
Fort Buford, N. Dak	259	279	1,077.22	8.51	32.86	1	3.86	8	30.89
Washington Barracks, D. C	255	339	1,329.41	13.22	51.86	1	3.92	17	66.67
San Carlos, Ariz	250	392	1,568.00	8.80	35.21	1	4.00	7	28.00
Madison Barracks, N. Y	248	346	1,395.16	7.56	30.50	1	4.03	1	4.03
Fort Apache, Ariz	242	574	2,371.90	13.43	55.51	4	16.53	11	45.45
Whipple Barracks, Ariz	241	406	1,684.65	14.89	61.80	1	4.15	14	58.09
Fort Wayne, Mich	211	283	1,341.23	7.98	37.84	.....	.....	3	14.22
Fort Supply, Ind. T	209	279	1,334.93	7.59	36.32	.....	.....	8	38.28
Fort Sidney, Nebr	204	253	1,240.20	9.00	44.12	1	4.90	5	24.51
Fort Davis, Tex	201	247	1,228.86	10.22	50.80	1	4.98	2	9.95
Fort Spokane, Wash	200	252	1,260.00	8.91	44.55	1	5.00	6	30.00
Summary	4,770	6,844	1,434.80	209.84	43.99	35	7.34	132	27.67

GROUP 4.—Thirty-one stations, garrisoned by 100 to 200 men each. Average, 138.

Fort Hamilton, N. Y	198	322	1,626.26	8.30	41.91	.....	.....	13	65.66
Fort Lewis, Colo	198	261	1,318.18	8.64	43.66	4	20.20	3	15.15
Fort Adams, R. I	197	154	781.73	5.00	25.38	1	5.08	5	25.38
Fort McPherson, Ga	188	468	2,489.36	11.50	61.16	2	10.64	1	5.32
Angel Island, Cal	188	173	920.21	5.16	27.44	1	5.32	9	47.87
Fort Lowell, Ariz	170	207	1,217.65	5.82	34.25	1	5.88	7	41.18
Fort Missoula, Mont	168	216	1,285.71	4.86	28.93	1	5.95	3	17.86
Fort Columbus, N. Y	164	176	1,073.17	6.44	39.27	2	12.20	8	48.78
Fort Shaw, Mont	159	182	1,144.65	5.58	35.06	2	12.58	4	25.16
Fort McKinney, Wyo	146	124	849.32	4.49	30.76	1	6.85	1	6.85
Fort Bridger, Wyo	142	150	1,056.34	4.36	30.68	1	7.04	.....	.....
Fort Union, N. Mex	142	110	774.65	3.77	26.53	.....	.....	2	14.08
Fort Myer, Va	137	185	1,350.36	5.10	37.20	2	14.60	2	14.60
Fort Brown, Tex	135	254	1,881.48	8.81	65.23	1	7.41	3	22.22
Fort Stanton, N. Mex	133	221	1,661.65	9.02	67.83	2	15.04	4	30.08
Fort McIntosh, Tex	130	96	738.46	3.29	25.31	3	23.08	1	7.69
Fort Bliss, Tex	123	120	975.61	2.76	22.47	.....	.....	6	48.78
Fort Elliott, Tex	122	242	1,983.61	9.36	76.71	3	24.59	3	24.59
Fort Bowie, Ariz	119	239	2,008.40	4.76	39.99	.....	.....	1	8.40
Fort Ringgold, Tex	119	103	865.55	3.17	26.61	1	8.40	1	8.40
Leavenworth Prison	115	108	939.13	2.13	18.53	.....	.....	2	17.39
Fort Niagara, N. Y	114	129	1,131.58	3.28	28.74	2	17.54	2	17.54
Fort Sully, S. Dak	112	105	937.50	3.89	34.74	1	8.93	3	26.79
Fort Washakie, Wyo	111	226	2,036.04	5.55	49.98	.....	.....	3	27.03

TABLE IV.—*Giving a general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP 4—Continued.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Mount Vernon Barracks, Ala	111	169	1,522.52	7.62	68.57	2	18.02	1	9.01
Fort Wadsworth, N. Y	111	119	1,072.07	3.30	29.69	1	9.01	1	9.01
Fort Marcy, N. Mex	110	133	1,209.09	3.45	31.36	1	9.09	1	9.09
Fort Thomas, Ariz	106	157	1,481.13	3.76	35.49	1	9.43	....	.....
Boisé Barracks, Idaho	105	121	1,152.38	3.47	33.01	.....	.....	2	19.05
Fort Randall, S. Dak	102	123	1,205.88	3.55	34.76	.....	.....	.....	.....
Fort Sheridan, Ill	101	98	970.30	2.25	22.30	1	9.90	2	19.80
Summary	4,276	5,491	1,284.14	162.40	37.98	37	8.65	94	21.98

GROUP 5.—Sixty-four stations, garrisoned by 1 to 100 men each. Average, 54.

Fort McHenry, Md	99	137	1,383.84	6.31	63.73	.....	.....	5	50.50
Camp Poplar River, Mont	97	173	1,783.51	3.25	33.47	2	20.62	.....	.....
Fort Abraham Lincoln, N. Dak	95	121	1,273.68	3.04	31.95	.....	.....	2	21.05
Fort Brady, Mich	95	121	1,273.68	2.99	31.49	.....	.....	.....	.....
Fort Porter, N. Y	95	96	1,010.53	3.13	33.28	1	10.53	1	10.53
Fort Mackinac, Mich	94	151	1,606.38	2.51	26.73	.....	.....	2	21.28
Jackson Barracks, La	92	199	2,163.04	6.50	70.64	2	21.74	2	21.74
Alcatraz Island, Cal	92	99	1,076.09	4.09	44.43	.....	.....	2	21.74
Fort Barrancas, Fla	86	144	1,674.42	5.03	58.49	2	23.26	1	11.63
Fort Warren, Mass	86	90	1,046.51	2.98	34.63	1	11.63	1	11.63
Camp Pilot Butte, Wyo	78	111	1,423.08	2.11	27.01	1	12.82	.....	.....
Camp Oklahoma, Okla	78	88	1,128.21	3.09	39.62	1	12.82	.....	.....
Fort Schuyler, N. Y	78	68	871.79	2.62	33.58	.....	.....	2	25.64
Fort Maginnis, Mont	76	132	1,736.84	3.45	45.35	1	13.16	2	26.32
Benicia Barracks, Cal	76	97	1,276.32	3.19	42.03	.....	.....	2	26.32
Fort Pembina, N. Dak	75	60	800.00	1.15	15.38	.....	.....	.....	.....
Fort Bidwell, Cal	71	101	1,422.54	1.65	23.31	.....	.....	1	14.08
Fort Crawford, Colo	67	73	1,089.55	1.84	27.52	.....	.....	2	29.85
St. Francis Barracks, Fla	65	131	2,015.38	4.34	66.76	.....	.....	4	61.54
Camp Sheridan, Wyo	65	82	1,261.54	2.56	39.41	.....	.....	2	30.77
Fort Totten, N. Dak	65	67	1,030.77	2.08	32.03	.....	.....	.....	.....
Fort Mason, Cal	64	66	1,031.25	2.73	42.51	.....	.....	4	62.50
Fort Canby, Wash	63	71	1,126.98	1.59	25.22	.....	.....	1	15.87
Newport Barracks, Ky	62	107	1,725.81	3.22	51.92	.....	.....	1	16.13
San Diego Barracks, Cal	61	80	1,311.48	7.47	122.48	2	32.79	5	81.97
Rock Island Arsenal, Ill	60	89	1,483.33	1.82	30.37	1	16.67	3	50.00
Watervliet Arsenal, N. Y	60	82	1,366.67	1.47	24.57	.....	.....	2	33.33
Little Rock Barracks, Ark	59	102	1,728.81	3.35	56.70	2	33.90	2	33.90
Fort Bennett, S. Dak	58	51	879.31	1.55	26.64	2	34.48	.....	.....
Fort Townsend, Wash	58	48	827.59	.97	16.77	.....	.....	.....	.....
Chicago, Headquarters Division of the Missouri	58	16	275.86	.82	14.22	2	34.48	1	17.24
Camp at Eagle Pass, Tex	56	115	2,053.57	3.34	59.59	.....	.....	1	17.86
Fort Preble, Me	54	72	1,333.33	1.72	31.91	.....	.....	.....	.....
Camp Peña Colorado, Tex	54	43	796.30	1.07	19.74	.....	.....	.....	.....
Fort Trumbull, Conn	52	58	1,115.38	1.78	34.19	.....	.....	1	19.23
Fort McDowell, Ariz	52	53	1,019.23	1.63	31.35	.....	.....	1	19.23
Fort Verde, Ariz	52	46	884.62	1.12	21.44	.....	.....	3	57.69
Benicia Arsenal, Cal	52	40	769.23	1.40	26.87	1	19.23	3	57.69
Fort Hancock, Tex	49	58	1,183.67	2.20	44.95	.....	.....	1	20.41
Plattsburg Barracks, N. Y	47	66	1,404.26	1.64	34.92	.....	.....	1	21.28
Fort Gibson, Ind. T	47	22	468.09	1.15	24.37	1	21.28	.....	.....
Fort Wood, N. J	46	23	500.00	.13	2.92	.....	.....	.....	.....
Fort Ontario, N. Y	43	73	1,697.67	2.15	49.89	.....	.....	4	93.02
Camp Guthrie, Okla	43	55	1,279.07	1.37	31.86	.....	.....	1	23.26
Fort Gaston, Cal	40	46	1,150.00	1.10	27.40	.....	.....	1	25.00
Frankford Arsenal, Pa	38	53	1,394.74	1.83	48.16	2	52.63	1	26.32
Fort Pierre, S. Dak	34	33	970.59	.82	24.01	1	29.41	.....	.....
Watertown Arsenal, Mass	33	35	1,060.61	.79	23.91	.....	.....	.....	.....
Sandy Hook, N. J	32	58	1,812.50	.55	17.04	.....	.....	.....	.....
San Antonio (headquarters), Tex	32	5	156.25	.13	3.94	.....	.....	.....	.....
St. Louis, Mo., Headquarters Department of the Missouri	32	3	93.75	.06	1 88	.....	.....	.....	.....
Fort Thomas, Ky	31	40	1,290.32	.57	16.35	.....	.....	.....	.....
Allegheny Arsenal, Pa	29	20	689.66	.85	29.48	1	34.48	.....	.....

TABLE IV.—*Giving a general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP 5—Continued.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Mojave, Ariz	28	49	1,750.00	2.17	75.24	...	.....	.....	.....
National Armory, Springfield, Mass.	28	15	535.71	.56	20.06	1	35.71	.....	.....
Augusta Arsenal, Ga	26	24	923.08	1.70	65.54	..	.....	2	76.92
Indianapolis Arsenal, Ind	25	46	1,840.00	1.42	56.99	1	40.00	1	40.00
Fort Selden, N. Mex	17	17	1,000.00	.36	21.43	1	58.82	1	58.82
Kennebec Arsenal, Me	15	29	1,933.33	.39	26.48	1	66.67	.....	.....
Fort Laramie, Wyo	14	32	2,285.71	.30	21.72	.....	.....	.....	.....
Government Saw Mill, Utah	14	19	1,357.14	.19	13.89	.....	.....	.....	.....
Camp Del Rio, Tex	13	21	1,615.38	.34	26.34	.....	.....	.....	.....
Camp Langtry, Tex	13	13	1,000.00	.43	33.09	....	.....	....	.....
Fort Klamath, Oregon	5	5	1,000.00	.10	20.27	....	.....	...	.....
Summary	3,474	4,340	1,249.28	128.14	36.89	30	8.64	72	20.73

GROUP 6.—Field.

Department of Dakota	767	771	1,005.22	10.79	14.06	35	45.63	1	1.30
Department of the Platte	126	106	841.27	.87	6.87	1	7.94	.....	.....
Department of California	119	125	1,050.42	2.06	17.31	.....	.....	2	16.81
Department of Texas	83	55	662.65	.87	10.53	.....	.....	.....	.....
Department of the Missouri	49	64	1,306.12	.82	16.77	.....	.....	3	61.22
Department of the East	35	84	2,400.00	.55	15.58	.....	.....	.....	.....
Department of the Columbia	23	26	1,130.43	.22	9.41	.....	.....	.....	.....
Department of Arizona	8	4	500.00	.05	6.51	....	.....	.....	.....
Summary	1,210	1,235	1,020.66	16.22	13.41	36	29.75	6	4.96
Hot Springs, Ark	47	18	382.98	38.19	812.53	3	63.83	31	659.57
At large	.....	.....	.....	.....	.....	15	.....	32	.....
Total for the Army	24,234	33,546	1,384.25	1,035.14	42.71	231	.....	614	.....

SUMMARY OF THE SIX GROUPS.

Range of the several means in each group.	Number of posts in each group and average strength of each.		Mean strength	Ratios per 1,000 of mean strength.				Daily average sick.	
	No.	Average strength.		Admissions.	Constantly non-effective.	Deaths.	Discharges.	All posts.	Average for each post.
Group 1, 400 to 700 men	14	474	6,640	1,479.09	48.36	6.63	27.86	321.13	22.94
Group 2, 300 to 400 men	11	347	3,817	1,518.73	41.70	8.38	16.25	159.18	14.47
Group 3, 200 to 300 men	19	251	4,770	1,434.80	43.99	7.34	27.67	209.84	11.04
Group 4, 100 to 200 men	31	138	4,276	1,284.14	37.98	8.65	21.98	162.40	5.24
Group 5, 1 to 100 men	64	54	3,474	1,249.28	36.89	8.64	20.73	128.14	2.00
Group 6, field	....	.....	1,210	1,020.66	13.41	29.75	4.96	16.22	.....

TABLE V.—*Twenty posts having the highest admission rates for the year* 1890, *also their admission rates for the years* 1885 *to* 1889, *inclusive.*

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.				Admission rates per 1,000 of mean strength.				
		Admissions.	Deaths.	Discharges for disability.	Constantly noneffective.	1889.	1888.	1887.	1886.	1885.
Fort Sill, Okla	330	2,551.52	12.12	36.36	47.41	1,797.10	1,592.06	1,744.68	1,642	2,211
Fort McPherson, Ga	188	2,489.36	10.64	5.32	61.16	3,416.67	.....	.....	.....	.....
Fort Sam Houston, Tex	606	2,430.69	8.25	37.95	63.25	1,262.61	943.60	1,570.67	1,192	1,293
Fort Apache, Ariz	242	2,371.90	16.53	45.45	55.51	1,029.41	933.67	968.42	1,934	941
Fort Grant, Ariz	327	2,207.95	21.41	15.29	50.30	967.85	1,010.95	1,703.52	1,520	1,448
Jackson Barracks, La	92	2,163.04	21.74	21.74	70.64	1,875.00	910.45	884.61	937	1,247
Camp at Eagle Pass, Tex	56	2,053.57	.....	17.86	59.59	1,145.45	788.46	821.43	1,143	.....
Fort Washakie, Wyo	111	2,036.04	.....	27.03	49.98	2,007.94	1,706.35	1,129.03	1,008	1,277
St. Francis Barracks, Fla	65	2,015.38	.....	61.54	66.76	1,568.97	1,378.79	1,718.75	1,942	1,705
Fort Bowie, Ariz	119	2,008.40	.....	8.40	39.99	1,303.92	884.89	966.67	482	735
Fort Elliott, Tex	122	1,983.61	24.59	24.59	76.71	1,761.91	1,245.81	884.82	381	486
Fort Reno, Okla	296	1,922.30	13.51	20.27	56.53	1,474.51	1,378.55	1,607.97	1,543	2,004
Fort Robinson, Nebr	393	1,895.67	25.45	7.63	44.51	1,454.33	925.56	1,283.08	1,593	1,297
Fort Brown, Tex	135	1,881.48	7.41	22.22	65.23	3,710.34	3,812.50	1,583.33	1,797	2,181
Columbus Barracks, Ohio	502	1,876.49	5.98	63.75	77.55	2,318.86	2,075.66	1,942.36	1,550	1,832
Fort Sherman, Idaho	272	1,838.24	11.03	18.38	44.15	1,308.94	1,271.19	1,031.75	916	1,077
Willets Point, N. Y. H	400	1,812.50	2.50	10.00	43.10	2,388.45	2,243.70	2,342.13	2,055	2,782
Fort Wingate, N. Mex	359	1,788.30	5.57	33.43	60.82	1,036.46	955.41	1,424.62	1,538	1,771
Camp Poplar River, Mont	97	1,783.51	20.62	.....	33.47	1,177.08	1,378.95	1,886.60	2,030	1,694
Newport Barracks, Ky	62	1,725.81	.....	16.13	51.92	1,134.62	581.40	800.00	1,023	696
U. S. Army	24,234	1,384.25	8.66	23.01	42.71	1,315.02	1,270.73	1,246.88	1,263	1,355

TABLE VI.—*Twenty posts having the highest non-effective rates for the year* 1890, *also their non-effective rates for the years* 1885 *to* 1889, *inclusive.*

Names of stations.	Mean strength.	Constantly non-effective per 1,000 mean strength.	Average sick daily.	Average of days each case was treated.	Constantly non-effective per 1,000 of mean strength.				
					1889	1888.	1887.	1886.	1885.
San Diego Barracks, Cal	61	122.48	7.47	34.09	77.07	53.87	54.31	96	132
Columbus Barracks, Ohio	502	77.55	38.91	15.08	92.74	81.87	74.51	63	82
Fort Elliott, Tex	122	76.71	9.36	14.82	67.64	29.95	29.73	18	18
Jackson Barracks, La	92	70.64	6.50	11.92	35.75	17.78	19.07	28	66
Mount Vernon Barracks, Ala	111	68.57	7.61	16.44	54.86	37.82	36.71	41	48
Fort Stanton, N. Mex	133	67.83	9.02	14.90	39.13	25.05	39.50	36	39
St. Francis Barracks, Fla	65	66.76	4.34	12.10	32.40	34.57	40.95	44	44
Fort Clark, Tex	481	65.25	31.38	14.27	60.05	51.71	36.45	57	57
Fort Brown, Tex	135	65.23	8.81	12.65	114.44	96.48	76.94	75	79
Fort McHenry, Md	99	63.73	6.31	16.81	53.71	62.99	59.67	30	46
Fort Sam Houston, Tex	606	63.25	38.33	9.59	50.64	38.41	51.59	39	35
Whipple Barracks, Ariz	241	61.80	14.89	13.39	56.20	46.37	35.05	23	34
Fort McPherson, Ga	188	61.16	11.50	8.97	72.80	.....	.....	.....	.....
Fort Wingate, N. Mex	359	60.82	21.84	12.41	33.03	37.30	30.51	53	50
Camp at Eagle Pass, Tex	56	59.59	3.34	10.59	60.17	38.15	37.57	23	.....
Fort Barrancas, Fla	86	58.49	5.03	12.75	48.42	33.98	34.06	38	45
Fort Logan, Colo	278	58.49	16.26	17.56	70.78	76.95	26.03	.....	.....
Fort Custer, Mont	331	57.91	19.17	15.31	49.72	49.58	47.81	46	42
Fort Reno, Okla	296	56.53	16.73	10.73	61.55	46.85	46.81	37	56
Fort Apache, Ariz	242	55.51	13.43	8.54	36.53	27.60	40.14	41	26
U. S. Army	24,234	42.71	1,035.14	11.26	44.12	41.91	42.38	39	41

TABLE VII.—*Twenty posts having the highest admission rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with their ratios for deaths, discharges, and constant non-effectiveness; also, the corresponding average rates of the Army, year, 1890.*

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges.	Constantly non-effective.
Fort Sill, Ind. T	330	2,109.10	.....	27.27	36.25
Fort Sam Houston, Tex	606	1,917.49	6.60	31.35	45.78
Fort Apache, Ariz	242	1,830.57	8.26	28.93	34.84
Fort McPherson, Ga	188	1,739.35	5.32	.....	30.72
Fort Grant, Ariz	327	1,663.61	15.29	12.23	32.09
St. Francis Barracks, Fla	65	1,646.16	.....	61.54	49.97
Fort Elliott, Tex	122	1,598.36	24.59	24.59	53.63
Fort Robinson, Nebr	393	1,493.65	20.36	7.63	32.32
Fort Bowie, Ariz	119	1,487.39	.....	8.40	28.21
Fort Reno, Ind. T	296	1,483.11	6.76	16.89	42.39
Jackson Barracks, La	92	1,456.54	21.74	10.87	37.35
Fort Washakie, Wyo	111	1,414.41	.....	18.02	30.21
Camp Poplar River, Mont	97	1,340.20	10.31	.....	19.57
Fort Sherman, Idaho	272	1,338.23	7.35	11.03	32.32
Mount Vernon Barracks, Ala	111	1,324.31	9.01	9.01	64.17
Fort Wingate, N. Mex	359	1,323.12	.....	22.29	37.89
Fort Monroe, Va	433	1,297.92	.....	4.62	28.31
San Carlos, Ariz	250	1,280.00	4.00	20.00	26.35
Fort Hamilton, N. Y	198	1,257.59	.....	45.45	30.92
Fort Clark, Tex	481	1,247.40	2.08	29.10	42.73
U. S. Army	24,234	992.16	5.57	19.68	28.47

TABLE VIII.—*Twenty posts having the highest non-effective rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with the average number sick daily, and average duration of each case; also the corresponding average rates of the Army, year* 1890.

Names of stations.	Mean strength.	Constantly non-effective.	Average number of sick daily.	Average number of days each case was treated.
San Diego Barracks, Cal	61	116.51	7.1	39.3
Mount Vernon Barracks, Ala	111	64.17	7.1	17.7
Fort Elliott, Tex	122	53.63	6.5	12.2
St. Francis Barracks, Fla	65	49.97	3.2	11.0
Fort Stanton, N. Mex	133	48.82	6.5	16.3
Fort Sam Houston, Tex	606	45.78	27.7	8.7
Fort McHenry, Md	99	44.92	4.4	15.9
Whipple Barracks, Ariz	241	44.58	10.7	14.5
Fort Clark, Tex	481	42.73	20.6	12.5
Fort Reno, Ind. T	296	42.39	12.5	10.4
Fort Custer, Mont	331	39.63	13.1	13.2
Fort Barrancas, Fla	86	39.27	3.4	12.6
Fort Davis, Tex	201	38.34	7.7	15.3
Fort Wingate, N. Mex	359	37.89	13.6	10.5
Benicia Barracks, Cal	76	37.74	2.9	13.3
Jackson Barracks, La	92	37.35	3.4	9.4
Fort Bayard, N. Mex	292	36.98	10.8	11.7
Fort Logan, Colo	278	36.56	10.2	16.3
Fort Sill, Ind. T	330	36.25	12.0	6.4
Fort Ontario, N. Y	43	35.74	1.5	11.9
U. S. Army	24,234	28.47	689.90	10.5

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant non-effectiveness for disease, not including venereal diseases, vaccina, nor alcoholism, year* 1890.

DEPARTMENT OF THE EAST.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength.	Death rate.	Discharge rate.	Constantly non-effective.
Fort McPherson, Ga	188	1,739.35	5.32	.....	30.72
Kennebec Arsenal, Me	15	1,733.33	66.67	.....	23.93
Indianapolis Arsenal, Ind	25	1,680.00	40.00	.....	49.75
St. Francis Barracks, Fla	65	1,646.16	.....	61.54	49.97
Sandy Hook, N. J	32	1,468.75	.....	.....	14.21
Jackson Barracks, La	92	1,456.54	21.74	10.87	37.35
Mount Vernon Barracks, Ala	111	1,324.31	9.01	9.01	64.17
Frankford Arsenal, Pa	38	1,315.79	52.63	26.32	45.35
Fort Monroe, Va	433	1,297.92	.....	4.62	28.31
Fort Hamilton, N. Y	198	1,257.59	.....	45.45	30.92
Willets Point, N. Y	400	1,230.00	2.50	10.00	26.36
Fort Mackinac, Mich	94	1,180.85	.....	10.64	15.01
Newport Barracks, Ky	62	1,177.41	.....	16.13	32.18
Fort Barrancas, Fla	86	1,139.52	.....	11.63	39.27
West Point, N. Y	378	1,137.56	2.65	2.65	23.75
Madison Barracks, N. Y	248	1,129.03	4.03	4.03	22.72
Fort Ontario, N. Y	46	1,093.03	.....	46.50	35.74
Fort McHenry, Md	99	1,030.30	.....	20.20	44.92
Fort Myer, Va	137	1,021.89	14.60	7.30	26.22
Columbus Barracks, Ohio	502	1,013.96	3.99	15.94	32.24
Watervliet Arsenal, N. Y	60	1,000.00	.....	33.33	17.90
Washington Barracks, D. C	255	984.30	3.92	66.67	34.17
Fort Wayne, Mich	211	957.36	.....	14.22	28.84
Plattsburg Barracks, N. Y	47	936.17	.....	21.28	23.72
Davids Island, N. Y	434	884.79	2.30	11.52	27.49
Augusta Arsenal, Ga	26	884.62	.....	76.92	64.91
Fort Niagara, N. Y	114	877.20	8.77	17.54	22.80
Fort Brady, Mich	95	863.16	.....	.....	18.81
Fort Preble, Me	54	796.30	.....	.....	15.88
Fort Wadsworth, N. Y	111	783.78	9.01	9.01	21.46
Fort Columbus, N. Y	164	749.99	12.20	36.58	26.76
Fort Thomas, Ky	31	741.93	.....	.....	8.31
Fort Trumbull, Conn	52	730.77	.....	19.23	24.03
Watertown Arsenal, Mass	33	727.28	.....	.....	19.76
Fort Porter, N. Y	95	705.27	10.53	.....	26.07
Fort Warren, Mass	86	697.68	11.63	11.63	22.46
Fort Adams, R. I	197	548.21	5.08	20.30	17.90
Fort Schuyler, N. Y	78	525.64	.....	12.82	22.77
Springfield Armory, Mass	28	464.28	35.71	.....	11.32
Allegheny Arsenal, Pa	29	448.27	.....	.....	26.45
Fort Wood, N. Y	46	347.81	.....	.....	1.25
Field	35	1,742.86	.....	.....	10.09
Department of the East	5,527	1,055.53	4.52	15.57	28.15

DEPARTMENT OF THE PLATTE.

Fort Laramie, Wyo	14	2,071.42	.....	.....	18.98
Fort Robinson, Nebr	393	1,493.65	20.36	7.63	32.32
Fort Washakie, Wyo	111	1,414.41	.....	18.02	30.21
Fort Du Chesne, Utah	260	1,130.77	.....	15.38	21.95
Fort Niobrara, Nebr	378	1,087.29	2.65	10.58	23.71
Camp Pilot Butte, Wyo	78	948.72	12.82	.....	19.00
Fort Sidney, Nebr	204	887.26	4.90	14.71	31.26
Government Saw Mill, Utah	14	785.72	.....	.....	5.87
Fort D. A. Russell, Wyo	348	775.87	2.87	5.75	19.94
Fort Douglas, Utah	423	758.83	7.09	4.73	24.24
Fort Bridger, Wyo	142	654.94	7.04	.....	20.35
Fort McKinney, Wyo	146	547.93	.....	.....	17.68
Fort Omaha, Nebr	415	460.23	7.23	28.92	19.00
Field	126	500.00	.....	.....	3.59
Department of the Platte	3,052	904.98	6.22	10.48	22.91

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant noneffectiveness for disease, etc.*—Continued.

DEPARTMENT OF DAKOTA.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength	Death rate.	Discharge rate.	Constantly noneffective.
Camp Poplar River, Mont	97	1,340.20	10.31	.....	19.57
Fort Maginnis, Mont	76	1,302.63	13.16	26.31	28.44
Fort Yates, N. Dak	287	1,139.37	3.48	31.36	34.20
Fort Custer, Mont	331	1,096.67	.....	9.06	39.63
Fort Missoula, Mont	168	982.14	5.95	5.95	18.40
Fort Randall, S. Dak	102	980.39	.....	.....	26.22
Fort Shaw, Mont	159	918.24	6.29	18.87	27.76
Fort Assinniboine, Mont	437	887.87	2.29	20.59	21.35
Camp Sheridan, Wyo	65	876.94	.....	30.77	27.52
Fort Totten, N. Dak	65	876.93	.....	.....	28.87
Fort Pierre, S. Dak	34	823.53	.....	.....	17.81
Fort Snelling, Minn	290	762.07	10.34	24.14	24.94
Fort Abraham Lincoln, N. Dak	95	757.90	.....	21.05	21.11
Fort Buford, N. Dak	259	741.32	.....	27.03	20.70
Fort Sully, S. Dak	112	669.64	.....	8.93	22.60
Fort Meade, S. Dak	308	649.36	.....	22.73	24.50
Fort Bennett, S. Dak	58	637.93	34.48	.....	18.46
Fort Pembina, N. Dak	75	600.01	.....	.....	13.62
Fort Keogh, Mont	347	406.35	2.88	2.88	19.61
Field	767	642.76	2.61	1.30	8.33
Department of Dakota	4,132	807.36	3.39	13.31	21.96

DEPARTMENT OF THE MISSOURI.

Fort Sill, Okla	330	2,109.10	.....	27.27	36.25
Fort Elliott, Tex	122	1,598.36	24.59	24.59	53.63
Fort Reno, Okla	296	1,483.11	6.76	16.89	42.39
Little Rock Barracks, Ark	59	1,305.07	33.90	16.95	38.40
Rock Island Arsenal, Ill	60	1,183.33	16.67	50.00	26 12
Fort Lewis, Colo	198	929.30	10.10	15.15	25.29
Fort Supply, Ind. T	209	885.18	.....	28.71	17.96
Camp Guthrie, Okla	43	883.73	.....	23.26	19.30
Fort Leavenworth (post), Kans	586	878.85	10.24	35.84	35.48
Fort Riley, Kans	642	858 25	.....	14.02	22.12
Fort Logan, Colo	278	820.14	17.99	.....	36.56
Fort Leavenworth (prison), Kans	115	817.38	.....	17.39	13.67
Fort Crawford, Colo	67	746.27	.....	29.85	20.77
Camp Oklahoma, Okla	78	705.13	.....	.....	18.30
Fort Sheridan, Ill	101	702.98	9.90	19.80	13.94
Jefferson Barracks, Mo	406	512.31	2.46	22.17	17.73
Fort Gibson, Ind. T	47	382.96	.....	.....	14.69
Chicago (Headquarters Div. Mo.), Ill	58	275.86	34.48	17.24	14.22
St. Louis (Headquarters), Mo	32	93.75	.....	.....	1.88
Field	49	959.18	.....	40.82	11.97
Department of the Missouri	3,776	990.75	6.62	20.92	27.76

DEPARTMENT OF TEXAS.

Fort Sam Houston, Tex	606	1,917.49	6.60	31.35	45.78
Camp Del Rio, Tex	13	1,307.71	.....	.....	22.13
Fort Clark, Tex	481	1,247.40	2.08	29.10	42.73
Camp at Eagle Pass, Tex	56	1,232.13	.....	17.86	25.59
Fort Brown, Tex	135	1,200.02	7.41	14.81	34.34
Fort Davis, Tex	201	915.44	.....	9.95	38.34
Fort Hancock, Tex	49	857.14	.....	20.41	32.59
Camp Langtry, Tex	13	769.23	.....	.....	26.13
Fort Bliss, Tex	123	764.23	.....	40.65	18.24
Fort Ringgold, Tex	119	613.44	8.40	8.40	20.64
Fort McIntosh, Tex	130	530.76	15.38	7.69	14.85
Camp Pena Colorado, Tex	54	500.00	.....	.....	12.68
San Antonio, Tex	32	156.25	.....	.....	3.94
Field	83	397.60	.....	.....	6.55
Department of Texas	2,095	1,215.75	4.29	21.96	34.50

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant noneffectiveness for disease, etc.*—Continued.

DEPARTMENT OF CALIFORNIA.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength.	Death rate.	Discharge rate.	Constantly noneffective.
Fort Bidwell, Cal	71	1,112.69	.....	14.08	15.62
Benicia Barracks, Cal	76	1,039.47	....	26.32	37.74
Presidio, San Francisco, Cal	455	956.05	2.20	19.78	27.93
Alcatraz Island, Cal	92	750.00	.....	10.87	19.74
Fort Mason, Cal	64	703.14	.....	62.50	33.23
Fort Gaston, Cal	40	650.00	.....	25.00	15.35
Benicia Arsenal, Cal	52	615.38	.....	38.46	20.13
Angel Island, Cal	188	601.07	5.32	31.91	13.61
Field	119	705.89	.....	16.81	10.97
Department of California	1,157	831.46	1.73	24.20	22.60

DEPARTMENT OF THE COLUMBIA.

Fort Sherman, Idaho	272	1,338.23	7.35	11.03	32.32
Fort Klamath, Oregon	5	1,000.00	.....	.....	20.27
Vancouver Barracks, Wash	420	885.71	7.14	19.05	26.20
Fort Walla Walla, Wash	318	867.93	3.14	12.58	25.44
Fort Spokane, Wash	200	865.00	.....	20.00	28.87
Boisé Barracks, Idaho	105	828.57	.....	19.05	26.54
Fort Canby, Wash	63	809.52	.....	15.87	14.17
Fort Townsend, Wash	58	517.25	.....	.....	8.60
Field	23	782.60	.....	.....	4.76
Department of the Columbia	1,464	939.88	4.10	15.03	25.98

DEPARTMENT OF ARIZONA.

Fort Apache, Ariz	242	1,830.57	8.26	28.93	34.84
Fort Grant, Ariz	327	1,663.61	15.29	12.23	32.09
Fort Mojave, Ariz	28	1,500.00	.....	.....	61.15
Fort Bowie, Ariz	119	1,487.39	.....	8.40	28.21
Fort Wingate, N. Mex	359	1,323.12	.....	22.29	37.89
San Carlos, Ariz	250	1,280.00	4.00	20.00	26.35
Fort Thomas, Ariz	106	1,179.24	9.43	.....	27.79
Fort Bayard, N. Mex	292	1,150.69	13.70	13.70	36.98
Whipple Barracks, Ariz	241	1,124.50	4.15	53.94	44.58
Fort Stanton, N. Mex	133	1,090.23	.....	30.08	48.82
San Diego Barracks, Cal	61	1,081.97	32.79	81.97	116.51
Fort Selden, N. Mex	17	882.36	.....	58.82	20.30
Fort Lowell, Ariz	170	847.05	.....	29.42	21.75
Fort Marcy, N. Mex	110	754.55	9.09	9.09	24.96
Fort McDowell, Ariz	52	750.00	.....	19.23	20.60
Fort Verde, Ariz	52	673.08	.....	38.46	10.60
Fort Huachuca, Ariz	275	527.27	.....	21.81	16.58
Fort Union, N. Mex	142	422.53	.....	7.04	10.68
Field	8	250.00	.....	.....	3.77
Department of Arizona	2,984	1,161.85	5.70	22.78	32.42

TABLE X.—*The monthly prevalence of disease among the white and colored troops in the Army during the year* 1890.

Months.		Admitted to sick report. Number. Venereal, alcoholism, and injuries.	Number. Other diseases.	Number. All diseases and injuries.	Ratios per 1,000 of mean strength. Venereal, alcoholism, and injuries.	Ratios per 1,000 of mean strength. Other diseases.	Ratios per 1,000 of mean strength. All diseases and injuries.	Mean strength.	Constantly non-effective. Days. Venereal, alcoholism, and injuries.	Days. Other diseases.	Days. All diseases and injuries.	Ratios per 1,000 of mean strength. Venereal, alcoholism, and injuries.	Ratios per 1,000 of mean strength. Other diseases.	Ratios per 1,000 of mean strength. All diseases and injuries.
Jan.	W.	599	4,853	5,452	25.97	210.43	236.40	23,062	8,479	35,598	44,077	11.86	49.79	61.65
	C.	86	740	826	35.27	303.53	338.80	2,438	1,307	3,917	5,224	17.29	51.83	69.12
	T.	685	5,593	6,278	26.86	219.33	246.20	25,500	9,786	39,515	49,301	12.38	49.99	62.37
Feb.	W.	580	1,877	2,457	24.79	80.24	105.03	23,392	8,204	21,910	30,114	12.53	33.45	45.98
	C.	79	338	417	32.48	138.98	171.46	2,432	1,435	2,628	4,063	21.07	38.59	59.67
	T.	659	2,215	2,874	25.52	85.77	111.29	25,824	9,639	24,538	34,177	13.33	33.94	47.27
Mar.	W.	695	1,615	2,310	29.94	69.57	99.51	23,213	9,648	21,029	30,677	13.41	29.22	42.63
	C.	91	222	313	37.89	92.42	130.31	2,402	1,599	2,167	3,766	21.47	29.10	50.57
	T.	786	1,837	2,623	30.69	71.72	102.40	25,615	11,247	23,196	34,443	14.16	29.21	43.37
Apr.	W.	674	1,379	2,053	29.31	59.97	89.29	22,993	8,960	17,827	26,787	12.99	25.84	38.83
	C.	90	194	284	37.10	79.97	117.06	2,426	1,300	1,998	3,298	17.86	27.45	45.31
	T.	764	1,573	2,337	30.06	61.88	91.94	25,419	10,260	19,825	30,085	13.45	26.00	39.45
May.	W.	714	1,414	2,128	31.58	62.55	94.13	22,607	8,810	16,499	25,309	12.57	23.54	36.11
	C.	64	195	259	27.47	83.69	111.16	2,330	1,030	2,128	3,158	14.26	29.46	43.72
	T.	778	1,609	2,387	31.20	64.52	95.72	24,937	9,840	18,627	28,467	12.73	24.09	36.82
June.	W.	641	1,575	2,216	28.82	70.81	99.63	22,243	8,153	17,177	25,330	12.22	25.74	37.96
	C.	64	172	236	28.55	76.72	105.26	2,242	825	1,934	2,759	12.27	28.75	41.02
	T.	705	1,747	2,452	28.79	71.35	100.14	24,485	8,978	19,111	28,089	12.22	26.02	38.24
July.	W.	793	1,885	2,678	36.89	87.69	124.58	21,496	9,413	18,850	28,263	14.12	28.29	42.41
	C.	82	205	287	36.87	92.18	129.05	2,224	898	1,973	2,871	13.02	28.62	41.64
	T.	875	2,090	2,965	36.89	88.11	125.00	23,720	10,311	20,823	31,134	14.02	28.32	42.34
Aug.	W.	622	1,702	2,324	29.23	79.99	109.22	21,278	8,451	19,079	27,530	12.81	28.92	41.74
	C.	74	202	276	32.56	88.87	121.43	2,273	974	1,876	2,850	13.82	26.62	40.45
	T.	696	1,904	2,600	29.55	80.85	110.40	23,551	9,425	20,955	30,380	12.91	28.70	41.61
Sept.	W.	659	1,594	2,253	31.73	76.75	108.48	20,769	8,260	18,186	26,446	13.26	29.19	42.44
	C.	86	194	280	38.84	87.62	126.47	2,214	1,048	2,011	3,059	15.78	30.28	46.05
	T.	745	1,788	2,533	32.42	77.80	110.21	22,983	9,308	20,197	29,505	13.50	29.29	42.79
Oct.	W.	601	1,332	1,933	28.95	64.16	93.11	20,760	8,250	17,499	25,749	12.82	27.19	40.01
	C.	87	196	283	37.89	85.37	123.26	2,296	950	2,145	3,095	13.35	30.14	43.48
	T.	688	1,528	2,216	29.84	66.27	96.11	23,056	9,200	19,644	28,844	12.87	27.48	40.36
Nov.	W.	559	1,266	1,825	27.09	61.36	88.45	20,634	8,485	15,335	23,820	13.71	24.77	38.48
	C.	101	218	319	43.42	93.72	137.15	2,326	1,085	2,268	3,353	15.55	32.50	48.05
	T.	660	1,484	2,144	28.75	64.63	93.38	22,960	9,570	17,603	27,173	13.89	25.56	39.45
Dec.	W.	618	1,272	1,890	30.19	62.15	92.34	20,467	8,271	15,024	23,295	13.04	23.68	36.72
	C.	75	172	247	32.75	75.11	107.86	2,290	1,035	1,899	2,934	14.58	26.75	41.33
	T.	693	1,444	2,137	30.45	63.45	93.91	22,757	9,306	16,923	26,229	13.19	23.99	37.18
Year	W.	7,755	21,764	29,519	353.95	993.33	1,347.28	21,910	103,384	234,013	337,397	12.93	29.26	42.19
	C.	979	3,048	4,027	421.26	1,311.53	1,732.79	2,324	13,486	26,944	40,430	15.90	31.76	47.66
	T.	8,734	24,812	33,546	360.40	1,023.85	1,384.25	24,234	116,870	260,957	377,827	13.21	29.50	42.71

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879-'88, *and of certain foreign armies.*

Names of army or departments.	U. S. Army, 1890.				U. S. Army, white, 1890.				U. S. Army, colored. 1890.			
Mean strength (corrected for time).	24,234.				21,910.				2,324.			
Causes of admission to sick report.	Admission.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	5.24	.49	.....	.76	5.48	.50	.....	.80	3.01	.40	.....	.36
Other specific contagious and infectious diseases, including erysipelas	175.07	.34	.....	3.02	163.08	.33	.....	2.96	288.30	.40	.....	3.55
Malarial fevers and resulting conditions	92.92	.15	.22	2.79	96.58	.08	.25	2.89	58.52	.79	.....	1.86
Typho-malarial fever	.17	.04	.....	.04	.18	.....	.....	.04	.....	.40	.....	.08
Diarrhœa, including cholera-morbus	188.55	.....	.11	1.41	116.43	.....	.12	1.45	138.54	.....	.....	1.00
Dysentery	5.74	.....	.19	.23	5.66	.....	.17	.20	6.45	.....	.40	.46
Other miasmatic diseases	.08	.....	.....	.001	.09	.....	.....	.001	.....	.....	.....	.....
Gonorrhœa and results	35.40	.....	.26	1.84	34.69	.....	.29	1.87	42.17	.....	.....	1.53
Syphilis and results	19.72	.....	2.40	1.70	18.89	.....	2.07	1.63	27.54	.....	5.56	2.38
Other venereal diseases	20.09	.....	.....	1.32	18.44	.....	.....	1.21	35.71	.....	.....	2.39
Vaccina	32.44	.....	.....	1.08	33.59	.....	.....	1.12	21.51	.....	.....	.72
Other enthetic diseases	1.24	.04	.....	.04	1.23	.04	.....	.04	1.29	.....	.....	.05
Alcoholism	40.73	.19	.15	.45	44.45	.21	.17	.49	5.59	.....	.....	.06
Other dietic diseases	.78	.....	.30	.05	.82	.....	.29	.06	.43	.....	.40	.02
Rheumatism (including muscular)	83.19	.04	2.06	4.05	76.54	.04	1.99	3.78	145.86	.....	2.78	6.64
Other constitutional diseases	4.75	.30	.52	.43	4.75	.29	.50	.40	4.73	.40	.79	.69
Developmental diseases	.50	.....	.71	.08	.50	.....	.79	.08	.43	.....	.....	.03
Parasitic diseases	3.42	.....	.....	.09	3.65	.....	.....	.09	1.29	.....	.....	.04
Headache and neuralgia	49.89	.....	.19	.92	45.32	.....	.17	.90	92.94	.....	.40	1.06
Other diseases of the nervous system	9.74	.79	2.32	1.21	10.00	.83	2.48	1.23	7.31	.40	.79	1.04
Diseases of the eye	16.88	.....	1.46	.81	15.97	.....	1.37	.78	25.39	.....	2.38	1.08
Diseases of the ear	9.04	.....	.82	.42	9.54	.....	.91	.41	4.30	.....	.....	.50
Catarrhs and common colds	21.50	.....	.....	.22	20.31	.....	.....	.21	32.70	.....	.....	.33
Bronchitis	74.07	.....	.22	1.44	74.85	.....	.21	1.48	66.69	.....	.40	1.02
Pneumonia	3.96	.52	.....	.41	3.51	.37	.....	.37	8.18	1.99	.....	.75
Pulmonary phthisis	3.26	.71	1.57	.83	3.10	.66	1.66	.78	4.73	1.19	.79	1.25
Pleuritis	2.68	.07	.11	.19	2.15	.04	.08	.17	7.75	.40	.40	.35
Other diseases of the respiratory system	5.98	.19	.34	.26	5.57	.17	.37	.24	9.90	.40	.....	.37
Diseases of the heart and valves	7.01	.26	1.57	.57	6.89	.21	1.49	.61	8.18	.79	2.38	.21
Other diseases of the circulatory system	1.69	.22	.52	.17	1.87	.21	.58	.18	.....	.40	.....	.....
Tonsillitis	33.59	.....	.....	.48	31.67	.....	.....	.47	51.63	.....	.....	.61
Dyspepsia, colic, and constipation	59.17	.....	.30	.78	56.46	.....	.25	.78	84.77	.....	.79	.83
Other diseases of the digestive system	77.94	.34	1.87	2.08	75.12	.37	1.94	2.10	104.56	.....	1.19	1.90
Diseases of the kidneys	1.98	.49	.19	.19	1.64	.50	.21	.17	5.16	.40	.....	.37
Other diseases of the genitourinary system (non-venereal	16.13	.....	1.05	.94	15.65	.....	.99	.95	20.65	.....	1.59	.91
Diseases of the locomotor system (excluding muscular rheumatism)	4.29	.....	.71	2.07	4.20	.....	.70	.42	5.16	.....	.79	.41
Diseases of the integumentary system	76.21	.04	.19	.42	77.86	.04	.17	2.07	60.67	.....	.40	2.06
All other diseases	25.46	.04	.30	1.08	23.83	.....	.29	1.07	40.88	.40	.40	1.22
Heat stroke	3.01	.....	.07	.08	3.24	.....	.04	.08	.86	.....	.40	.10
Frost-bite and general freezing	2.48	.....	.04	.14	1.87	.....	.04	.11	8.18	.....	.....	.39
Contusions and sprains	128.28	.....	.19	3.14	125.96	.....	.17	3.13	150.17	.....	.40	3.26
Dislocations	2.56	.....	.11	.17	2.56	.....	.08	.17	2.58	.....	.40	.08
Fractures (not gunshot)	6.85	.07	.64	1.14	6.80	.08	.66	1.17	7.31	.....	.40	.94
Incised, lacerated, contused, and punctured wounds	56.20	.11	.07	1.63	52.26	.12	.08	1.55	93.37	.....	.....	2.37
Shot wounds	4.79	2.29	.75	.51	4.38	2.32	.54	.44	8.61	1.99	2.78	1.19
All other injuries	39.53	.95	.45	1.04	39.62	.99	.33	1.03	38.73	.79	1.59	1.19
Total for disease	1,140.55	5.25	20.69	34.86	1,110.59	4.88	20.48	34.51	1,422.97	8.74	22.65	38.15
Total for injuries	243.70	3.45	2.32	7.85	236.69	3.52	1.94	7.68	309.82	2.78	5.96	9.51
Total for all causes	1,384.25	8.69	23.01	42.71	1,347.28	8.40	22.43	42.19	1,732.79	11.52	28.61	47.66

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879–'88, *and of certain foreign armies.*

Names of army or departments.	U. S. army 1879–'88.				U. S. Army, white, 1879–'88.				U. S. Army, colored, 1879–'88.			
Mean strength (corrected for time).	23,828.				21,542.				2,286.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	4.91	.74	.04	..	5.12	.75	.04	....	3.02	.68	....	....
Other specific contagious and infectious diseases, including erysipelas	19.72	.18	.03	....	18.78	.17	.03	..	28.60	.28	.04	....
Malarial fevers and resulting conditions	162.03	.25	.18	....	162.43	.25	.19	....	158.63	.28	.12	....
Typho-malarial fever	2.31	.27	.004	....	2.38	.24	.004	..	1.66	.56	....	....
Diarrhœa, including cholera morbus	169.97	.09	.31	....	169.87	.09	.31	..	170.83	.08	.36	....
Dysentery	15.18	.21	.19	..	13.65	.20	.19	....	29.65	.32	.20	....
Other miasmatic diseases	.03	.04	....	..	.03	.04	....	....	.04	.04	....	....
Gonorrhœa and results	40.54	....	.30	....	40.03	....	.31	....	44.48	....	.20	....
Syphilis and results	37.48	.03	3.59	....	35.61	.03	3.53	..	55.07	.04	4.14	....
Other venereal diseases	1.74	....	.03	....	1.69	....	.03	....	2.18	....	....	....
Vaccina	9.34	....	....	....	9.27	....	....	....	10.02	....	....	....
Other enthetic diseases	2.39	.004	.01	..	2.26	.004	.01	....	3.59	....	....	....
Alcoholism	56.68	.17	.47	..	62.22	.19	.52	....	4.42	....	....	....
Other dietic diseases	.49	.01	.04	..	.44	.01	.05	....	.96	....	....	....
Rheumatism (including muscular	110.73	.05	3.01	....	107.14	.05	2.97	....	144.65	.04	3.42	....
Other constitutional diseases	8.78	.20	.70	....	8.64	.19	.65	....	10.06	.28	1.19	....
Developmental diseases	....	....	....	....	....	....	....	....	....	....	....	....
Parasitic diseases	3.34	....	.004	..	3.53	..	.004	....	1.53	....	....	....
Headache and neuralgia	93.03	....	.40	....	90.07	....	.41	....	120.93	....	.36	....
Other diseases of the nervous system	11.52	.52	3.68	....	11.73	.54	3.74	....	9.58	.40	3.10	....
Diseases of the eye	24.64	....	1.29	....	24.20	....	1.29	..	28.82	....	1.35	....
Diseases of the ear	8.49	.01	.83	..	8.97	.01	.88	....	4.02	....	.36	....
Catarrhs and common colds	100.14	....	.03	....	97.95	..	.03	....	120.75	....	.04	....
Bronchitis	69.66	.10	.64	....	68.49	.11	.67	....	80.74	....	.40	....
Pneumonia	4.75	.86	.16	....	4.46	.76	.15	....	7.52	1.79	.24	....
Pulmonary phthisis	3.55	.57	2.08	....	3.50	.54	2.07	....	4.02	.84	2.11	....
Pleuritis	3.89	.03	.12	..	3.54	.03	.12	..	7.13	.04	.12	....
Other diseases of the respiratory system	7.99	.09	.46	....	7.57	.08	.48	..	11.98	.16	.32	....
Diseases of the heart and valves	3.36	.31	1.58	....	3.42	.32	1.64	..	2.80	.24	1.03	....
Other diseases of the circulatory system	4.90	.36	1.05	....	5.11	.36	1.10	....	2.93	.36	.52	....
Tonsillitis	55.22	....	.01	....	53.52	....	.01	....	71.21	....	....	....
Dyspepsia, colic, and constipation	82.25	....	.22	....	79.06	....	.24	..	112.33	....	.08	....
Other diseases of the digestive system	48.77	.57	2.21	..	48.62	.59	2.26	....	50.08	.48	1.75	....
Diseases of the kidneys	1.35	.20	.25	....	1.36	.20	.25	....	1.27	.20	.32	....
Other diseases of the genito-urinary system (non-venereal)	17.63	.04	1.52	..	17.34	.05	1.48	....	20.34	....	1.87	....
Diseases of the locomotor system (excluding muscular rheumatism)	5.80	.01	1.37	....	5.77	.004	1.34	..	6.12	.08	1.59	....
Diseases of the integumentary system	98.28	.004	.42	....	100.97	.004	.43	....	72.83	....	.40	....
All other diseases	7.69	.05	.94	....	7.84	.05	.97	....	6.25	....	.68	....
Heat stroke	1.59	.03	.02	..	1.70	.03	.03	....	.52	....	....	....
Frost-bite and general freezing	8.36	.09	.13	....	6.33	.10	.11	....	27.46	.04	.36	....
Contusions and sprains	150.23	.03	.64	..	150.22	.03	.63	....	150.50	.04	.72	....
Dislocations	2.43	.01	.17	..	2.44	.01	.17	....	2.32	....	.16	....
Fractures (not gunshot)	6.66	.14	.76	....	6.95	.14	.79	....	3.94	.12	.44	....
Incised, lacerated, contused, and punctured wounds	43.53	.15	.34	....	42.00	.15	.32	..	57.73	.16	.44	....
Shot wounds	5.57	1.54	1.12	.	4.89	1.34	1.06	....	11.98	3.46	1.67	....
All other injuries	27.33	1.27	.61	....	27.81	1.33	.62	..	22.74	.72	.60	....
Total for disease	1,298.56	5.98	28.20	...	1,286.59	5.85	28.40	....	1,411.10	7.16	26.29	....
Total for injuries	245.67	3.25	3.79	...	242.32	3.12	3.73	....	277.22	4.53	4.38	....
Total for all causes	1,544.23	9.23	31.99	....	1,528.91	8.97	32.13	....	1,688.32	11.69	30.67	....

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and non-effectiveness, of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879–'88, *and of certain foreign armies.*

Names of army or departments.	Austria-Hungary, 1889.			Belgium, 1889.			Great Britain, 1888.			Prussia, Saxony, Wurtemberg, 1887–'88.		
Mean strength (corrected for time).	281,569			46,471			101,695			417,104		
Causes for admission to sick report.	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.	Admissions.	Deaths.	Discharges.
Enteric fever	4.62	.75	.03	7.38	.73	....	1.24	.33	....	4.38	.33	.....
Other specific contagious and infectious diseases, including erysipelas	18.45	.06	.01	8.04	.11	....	10.98	.16	.....	6.98	.15	.....
Malarial fevers and resulting conditions	34.57	...	.09	.41	....	....	4.94	.01	....	4.71	....	.....
Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa	43.08	.01	.01	.58	.....	.....	4.84	.....	.....	16.56	....	.....
Dysentery	.70	.09	....	.02	...	.02	.71	.04	.07	.14	....	.....
Other miasmatic diseases	.05	.04	.....	.....	.....	.....	.04	.03	.....	.04	.04	.....
Gonorrhœa and results	31.78	...	.....	19.43	.....	.....	91.13	...	.03	15.73	....	.....
Syphilis and results	18.58	...	.07	5.53	.....	.....	106.52	.11	.93	6.30	...	.04
Other venereal diseases	14.93	....	...	4.11	....	....	26.96	....	...	4.34	....	.....
Vaccina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other enthetic diseases	.17	...	....	.....	.02	....	.....	...	....	.27	.01	.....
Alcoholism	.12	...	.03	.28	.02	....	3.47	.03	....	.24	.01	.....
Other dietic diseases	.80	.02	.....	.....	.....	.....	.17	....	....	.13	.01	.....
Rheumatism (including muscular)	28.17	....	.34	16.12	....	.17	36.95	.04	.77	33.23	.03	.37
Other constitutional diseases	10.05	.22	1.06	9.62	....	3.81	5.51	.22	.43	3.19	.06	.48
Developmental diseases	.....	....	.15	.....	.....	.....	6.68	.02	1.11	.22	.01	1.44
Parasitic diseases	5.91	....	.....	.41	.....	.....	26.08	.01	....	8.47	....	.....
Headache and neuralgia												
Other diseases of the nervous system	7.36	.50	1.68	9.88	.23	1.66	9.17	.49	2.12	5.01	.17	2.71
Diseases of the eye	50.32	..	5.25	28.58	....	.75	12.03	....	.59	28.62	....	3.74
Diseases of the ear	15.32	....	4.02	9.79	....	1.16	6.08	.01	.58	11.46	.01	1.42
Bronchitis	116.60	....	1.00	26.36	.13	1.36	47.20	.07		50.39	.01	
Pneumonia	8.85	.57	.03	3.01	.17	.02	9.76	.85		11.63	.48	
Pulmonary phthisis	3.76	1.18	2.46	1.53	1.08	.26	4.20	1.09		2.35	.48	
Pleuritis	4.91	.22	.29	4.20	.13	.11	3.77	.06	2.62	4.67	.12	5.88
Other diseases of the respiratory system (including catarrh and common colds)	5.16	.10	.33	6.74	...	.39	2.08	.09		23.37	.03	
Diseases of the heart and valves												
Other diseases of the circulatory system	9.10	.17	2.66	5.75	.19	1.36	8.70	.30	3.12	1.84	.08	3.24
				.77	...	.37	1.42	.11		1.26	....	
Tonsillitis, other diseases of the mouth and throat	53.36	...	.13	19.73	.....	.....	58.15	....	.94	78.17	....	5.49
Other diseases of the digestive system	90.30	.27	6.59	45.02	.13	2.35	30.77	.34		50.60	.15	
Diseases of the kidneys	.36	.10	.05	.22	.09	.....	.50	.16		.50	.11	
Other diseases of the genito-urinary system (non-venereal)	15.79	.02	1.07	6.28	...	.62	20.05	.03	.60	5.99	.01	.64
Diseases of the locomotor system (excluding muscular rheumatism)	25.19	.09	4.89	7.40	.02	.99	7.28	.08	.87	25.95	.06	5.30
Diseases of the integumentary system	182.71	....	.90	46.82	.04	.65	71.70	.03	.28	205.40	.02	.40
All other diseases	32.55	....	8.73	16.76	.86	.45	27.39	.01	.12	24.22	....	.32
Heat stroke	.12	....	.....	.28	....	....	.....	.....	.....	.21	.01	
Frostbite and general freezing	3.85	.01	.09	1.48	....	....				8.37	....	
Contusions and sprains	.....	.....	.....	17.99	....	....				94.98	.02	
Dislocations	.73	....	.29	.49	....	.04				1.06	....	
Fractures (not gunshot)	2.10	.01	.95	1.92	....	.02	94.42	.80	.73	2.82	.02	
Incised, lacerated, contused, and punctured wounds	.....	.....	.....	26.88	...	....				26.21	.01	
Shot wounds	1.26	1.24	.22	.09	.13	.....				.58	.26	
All other injuries	109.61	.63	1.32	9.46	.30	.47				34.18	.53	
Total for disease	833.62	4.41	41.87	310.77	3.96	16.48	646.47	4.72	15.18	635.72	2.38	31.47
Total for injuries	117.67	1.89	2.86	58.58	.43	.54	94.42	.80	.73	168.41	.86	.73
Total for all causes	951.29	6.30	44.73	369.35	4.39	17.02	740.89	5.52	15.91	804.13	3.24	32.20

Austria-Hungary.—The discharge rate is no doubt somewhat too high. The medical report states the number of discharges to have been 12,594, and referring this number to a total, consisting of the standing army, of the reserves, of the landwehr, etc., in all over 900,000 men, gives the rate as 13.8. But as 8,165 men, serving one year or less, were discharged from the standing army, and as many discharges from the same source must necessarily have taken place among men of longer service, it would seem that comparatively few discharges occurred among men outside of those serving with their colors, and that it would be more correct for the sake of comparison with our Army to refer all the discharges to a mean strength of 281,569, equivalent to that of the Austrian standing army for 1889.

Seven thousand nine hundred and thirty-two patients=28.4 per 1,000 of mean strength, were furloughed to their homes for recuperation from disease.

Belgium.—The total admission rate was 1330.6, of which 961.2 were treated in quarters and 369.4 in hospital. As the diseases of patients of the former category are not given in detail, but are only roughly stated as fevers, conjunctivites, diseases of the eye, venereal diseases, and scabies, the Belgian statement of admissions is limited to the cases treated in hospital.

One thousand six hundred and seventy-nine patients=36.1 per 1,000 of mean strength, were sent to their homes to await recovery. About one-third of the discharges occurred among men serving one year or less.

Prussia, Saxony, Würtemberg.—About one-half of the discharges made were among men serving less than one year and for disabilities contracted before conscription.

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879–'88, *and of certain foreign armies.*

Names of army or departments.	Department of the East.				Department of the Platte.				Department of Dakota.			
Mean strength (corrected for time).	5,527.				3,052.				4,132.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	2.89	.54	.....	.38	7.21	1.31	....	.93	3.87	.....	.....	.54
Other specific contagious and infectious diseases, including erysipelas	162.65	.54	.....	3.38	143.51	...	.....	1.87	194.11	.24	.....	3.25
Malarial fevers and resulting conditions	87.02	...	.36	2.73	38.99	...	.....	.78	20.81	.....	.....	.48
Typho-malarial fever	.54	.....	.....	.10	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera morbus	157.94	...	.....	1.92	112.72	...	.....	1.04	73.33	.....	.....	.67
Dysentery	5.43	...	.....	.18	5.90	...	.....	.21	8.71	.....	.24	.15
Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	54.82	...	.54	2.80	23.92	...	.....	.96	19.12	.....	.24	.94
Syphilis and results	26.59	...	4.70	2.05	14.09	...	.66	.95	6.29	...	.73	.46
Other venereal diseases	25.87	...	...	1.64	7.86	...	.....	.48	14.04	.....	...	.81
Vaccina	80.15	...	.....	3.12	5.57	...	.....	.21	30.49	.....	.....	.79
Other enthetic diseases	.72	.18	.....	.01	.98	...	.....	.03	.97	.....	.....	.08
Alcoholism	57.36	.36	.36	.69	49.80	...	.....	.58	22.75	.48	.....	.20
Other dietic diseases	.54	...	.....	.03	.33	...	.....	.06	.24	.....	.....	.04
Rheumatism (including muscular)	73.99	...	1.09	2.71	99.93	.33	1.31	4.14	76.96	.....	1.94	3.33
Other constitutional diseases	5.25	.18	.72	.43	4.26	...	.66	.58	3.63	.97	.24	.26
Developmental diseases	.18	...	.18	.03	1.31	...	1.64	.04	.24	.....	.73	.02
Parasitic diseases	6.33	...	.....	.16	2.29	...	.....	.11	1.94	.....	.....	.05
Headache and neuralgia	53.55	...	.36	.80	48.17	...	.....	.99	44.05	.....	.....	.60
Other diseases of the nervous system	9.95	1.09	.90	.98	8.19	.33	...	.34	7.50	.48	.73	1.15
Diseases of the eye	15.74	...	.54	.71	16.71	...	1.31	.70	15.49	.....	.97	.63
Diseases of the ear	9.95	...	.54	.48	9.17	...	.66	.40	10.41	.....	.97	.31
Catarrhs and common colds	9.77	...	.....	.10	20.66	...	.....	.24	22.51	.....	.....	.27
Bronchitis	96.80	...	.....	1.93	72.74	...	.....	1.49	62.20	.....	.73	1.12
Pneumonia	3.08	.36	.....	.50	7.86	.98	.....	.76	4.84	.73	.....	.31
Pulmonary phthisis	3.44	.36	2.17	.70	4.91	.98	1.97	.87	1.94	.24	.73	.27
Pleuritis	2.71	...	.18	.28	3.60	.33	.33	.22	1.69	.....	.....	.11
Other diseases of the respiratory system	7.42	.18	.54	.27	3.93	...	....	.15	4.11	.24	.48	.16
Diseases of the heart and valves	9.23	...	2.89	.73	5.90	...	.98	.48	7.26	.48	.73	.83
Other diseases of the circulatory system	1.63	.36	.72	.11	.98	.33	.....	.05	1.94	.....	.....	.22
Tonsillitis	43.96	...	.....	.61	37.03	...	....	.61	34.85	.....	.....	.49
Dyspepsia, colic, and constipation	66.04	...	.36	.65	54.39	...	.33	.72	41.14	.....	.24	.49
Other diseases of the digestive system	81.06	.18	1.63	2.15	88.14	.98	.33	1.91	71.88	.....	2.90	1.75
Diseases of the kidneys	1.81	.54	.....	.17	1.31	.66	.....	.06	1.45	.....	.24	.11
Other diseases of the genito-urinary system (non-venereal)	20.26	...	1.45	.84	9.83	...	.66	.35	13.31	.....	.97	1.12
Diseases of the locomotor system (excluding muscular rheumatism)	3.98	...	.54	.33	6.55	...	.....	.52	3.63	.....	.48	.40
Diseases of the integumentary system	83.41	...	.....	2.34	61.60	...	.....	1.60	50.10	.....	.....	1.69
All other diseases	28.59	...	.36	1.42	25.88	...	.33	.66	22.27	.....	.....	1.06
Heat stroke	3.08	...	.....	.06	.98	...	.....	.05	2.66	.....	.....	.10
Frostbite and general freezing.												
Contusions and sprains	.54	...	.....	.01	5.57	...	.....	.19	7.74	.....	.24	.51
Dislocations	115.07	...	.18	2.80	119.93	...	.....	2.83	107.93	.....	.24	2.46
Fractures (not gunshot)	1.63	...	.54	.03	1.97	...	.....	.12	2.90	.....	.....	.21
Incised, lacerated, contused, and punctured wounds	6.87	...	.72	1.08	7.54	...	.....	.76	4.84	.....	.73	1.35
Shot wounds	49.57	...	.18	1.42	64.88	...	.....	2.12	56.15	.....	.....	1.30
All other injuries	1.27	.54	.54	.15	2.62	.98	2.29	.86	12.83	8.71	.73	.61
	38.53	.73	.18	.76	40.96	.98	.98	.95	38.96	.73	.48	.92
Total for disease	1,300.70	4.88	21.17	38.46	1,006.23	6.22	11.14	26.09	900.05	3.87	14.28	25.16
Total for injuries	216.58	1.27	2.35	6.32	244.43	1.97	3.28	7.87	234.02	9.44	2.42	7.47
Total for all causes	1,517.28	6.15	23.52	44.78	1,250.66	8.19	14.42	33.96	1,134.08	13.31	16.70	32.63

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879–'88, *and of certain foreign armies.*

Names of army or departments.	Department of the Missouri.				Department of Texas.				Department of California.			
Mean strength (corrected for time).	3,776.				2,095.				1,157.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	7.41	1.32	.....	1.41	14.32	...	.....	1.73	2.59	....	.....	.31
Other specific, contagious, and infectious diseases, including erysipelas	136.12	.26	.....	2.83	131.74	.48	.....	2.12	179.77	.86	...	3.14
Malarial fevers and resulting conditions	182.73	.26	.53	4.42	244.39	.48	.48	9.84	69.14	....	.....	1.27
Typho-malarial fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa, including cholera morbus	111.74	...	.26	1.69	191.40	....	.....	2.36	57.91	....	.....	.74
Dysentery	3.18	...	.26	.19	9.55	....	.95	.30	.....	.....	.....	....
Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gonorrhœa and results	29.39	....	.26	1.80	56.80	....	.95	3.09	36.30	..	....	1.97
Syphilis and results	21.45	....	3.71	1.66	29.12	....	1.43	2.88	15.56	..	2.59	1.87
Other venereal diseases	23.57	....	.....	1.72	32.46	....	.....	2.22	23.33	....	.....	1.29
Vaccina	36.81	....	.....	.90	9.55	....	.....	.21	15.56	....	.....	.36
Other enthetic diseases	1.59	....	.....	.03	2.86	....	.....	.14	.....	.....	.....	.....
Alcoholism	22.25	....	.....	.31	51.07	.48	.48	.53	30.25	....	.....	.23
Other dietic diseases	1.06	....	.53	.06	.48	....	.....	.01	.86	....	.86	.02
Rheumatism (including muscular)	64.35	....	2.38	2.46	79.23	....	.95	2.29	73.46	....	3.46	3.01
Other constitutional diseases	3.44	....	.....	.10	4.77	....	1.43	.46	6.05	..	.86	.64
Developmental diseases	.26	....	1.32	.01	.....	....	.95	....	1.73	..	1.73	.44
Parasitic diseases	3.18	....	.....	.07	4.30	....	.....	.11	.86	....	.....	.01
Headache and neuralgia	36.55	....	.....	.61	85.92	....	.....	.91	22.47	....	.....	.58
Other diseases of the nervous system	10.33	.79	1.85	1.18	10.50	.48	1.43	.79	8.64	....	1.73	1.45
Diseases of the eye	14.30	....	.79	.84	15.75	....	2.86	.79	12.96	....	3.46	.91
Diseases of the ear	6.36	....	.79	.26	10.50	....	.95	.54	3.46	....	1.73	.20
Catarrahs and common colds	25.69	....	.....	.24	37.71	....	.....	.34	28.52	....	.....	.37
Bronchitis	58.52	....	.26	1.27	39.62	....	.48	.89	87.29	....	.....	1.70
Pneumonia	3.44	.53	.....	.31	.95	....	.....	.08	3.46	....	.....	.49
Pulmonary phthisis	1.85	.79	1.06	.32	5.73	.95	4.30	1.41	3.46	.86	.86	.86
Pleuritis	2.38	.26	.26	.06	1.43	....	.....	.24	4.32	....	.....	.18
Other diseases of the respiratory system	8.21	.53	.53	.45	2.39	....	.48	.20	3.46	....	.....	.64
Diseases of the heart and valves	5.03	....	1.59	.35	4.30	....	.48	.26	3.46	....	1.73	.32
Other diseases of the circulatory system	2.65	.26	.79	.25	1.91	....	1.43	.14	1.73	....	.86	.16
Tonsillitis	24.63	....	.....	.35	15.75	....	.....	.18	20.74	....	.....	.35
Dyspepsia, colic, and constipation	58.26	....	.26	.81	63.69	....	.....	.81	31.98	....	.....	.31
Other diseases of the digestive system	72.30	.79	3.18	2.40	62.53	.48	2.39	1.68	70.01	....	2.59	1.72
Diseases of the kidneys	1.32	.79	.....	.04	3.34	.95	.95	.32	2.59	....	.....	.03
Other diseases of the genito-urinary system (non-venereal)	16.68	....	2.12	1.17	21.48	....	.....	.91	19.01	....	1.73	1.03
Diseases of the locomotor system (excluding muscular rheumatism)	5.03	....	1.32	.51	3.82	....	.48	.30	2.59	....	1.73	.05
Diseases of the integumentary system	110.70	....	.26	2.44	92.12	.48	.....	2.60	95.94	....	.86	1.65
All other diseases	11.39	....	.53	.63	52.98	...	.95	1.73	12.96	....	.....	.61
Heat stroke	1.59	....	.....	.02	10.98	....	.....	.32	.....	.....	.....	.....
Frostbite and general freezing	.53	....	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....
Contusions and sprains	142.74	....	.26	4.33	122.67	....	.....	2.89	146.93	....	.86	4.32
Dislocations	4.50	....	.....	.34	2.39	....	.....	.09	2.59	....	.....	.35
Fractures (not gunshot)	7.41	....	.....	1.35	7.64	....	.48	1.29	4.32	....	2.59	1.15
Incised, lacerated, contused, and punctured wounds	54.56	.79	.26	1.56	51.07	....	.....	1.58	45.81	....	.....	1.26
Shot wounds	4.77	2.65	.53	.45	1.91	.48	.....	.27	3.46	....	.....	.14
All other injuries	41.05	1.59	.53	1.08	34.37	1.43	.95	.98	45.81	.86	.....	1.01
Total for disease	1,124.21	6.62	24.89	34.15	1,394.75	4.77	24.82	43.43	952.46	1.73	26.79	28.32
Total for injuries	257.15	5.03	1.59	9.19	231.03	1.91	1.43	7.32	248.92	.86	3.46	8.22
Total for all causes	1,381.36	11.65	26.48	43.33	1,625.78	6.68	26.25	50.75	1,201.38	2.59	30.25	36.54

TABLE XI.—*The rates, per* 1,000 *of strength, of admission, death, discharge, and noneffectiveness of the U. S. Army, and of the troops in the several departments, for the year* 1890, *as compared with those of the decade* 1879–'88, *and of certain foreign armies.*

Names of army or departments.	Department of the Columbia.				Department of Arizona.			
Mean strength (corrected for time).	1,464.				2,984.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly noneffective.	Admissions.	Deaths.	Discharges.	Constantly noneffective.
Enteric fever	4.78	.....	.....	.86	1.68	.....	.....	.23
Other specific contagious and infectious diseases, including erysipelas	143.43	.....	.....	3.15	299.60	.34	.....	3.96
Malarial fevers and resulting conditions	56.01	.....	.....	1.90	67.69	.67	.34	2.13
Typho-malarial fever	.....	.....	.....	.....	.34	.34	.....	.16
Diarrhœa, including cholera morbus	83.33	.....	.....	.85	114.27	.....	.34	1.15
Dysentery	.....	.....	.....	.....	7.71	.....	.....	.46
Other miasmatic diseases	.....	.....	.....	.....	.67	.....	.....	.01
Gonorrhœa and results	25.96	.....	.....	1.56	31.17	.....	.....	1.49
Syphilis and results	29.37	.....	2.73	3.01	19.44	.....	2.68	1.60
Other venereal diseases	8.20	.....	.....	.35	22.12	.....	.....	1.71
Vaccina	8.20	.....	.....	.18	3.69	.....	.....	.06
Other enthetic diseases	.68	.....	.....	.01	2.01	.....	.....	.04
Alcoholism	61.48	.....	.....	.72	36.19	.....	.34	.31
Other dietic diseases	1.37	.....	.68	.21	2.01	.....	1.34	.09
Rheumatism, (including muscular)	90.85	.....	.....	2.65	117.63	.....	1.68	4.59
Other constitutional diseases	4.78	.....	.68	.36	7.04	1.01	.34	.76
Developmental diseases	.....	.....	.....	.....	1.01	.....	.34	.32
Parasitic diseases	2.73	.....	.....	.05	2.35	.....	.....	.05
Headache and neuralgia	35.52	.....	.....	.81	62.67	.....	.67	1.28
Other diseases of the nervous system	11.61	.68	1.37	.65	11.39	.34	1.68	1.85
Diseases of the eye	25.27	.....	2.05	1.13	22.79	.....	3.35	.99
Diseases of the ear	16.39	.....	2.73	.90	6.37	.....	.67	.41
Catarrhs and common colds	12.30	.....	.....	.12	28.15	.....	.....	.27
Bronchitis	162.57	.....	.68	2.60	45.91	.....	.....	.83
Pneumonia	5.46	1.37	.....	.47	2.68	.34	.....	.30
Pulmonary phthisis	2.05	1.37	.....	.41	3.35	.34	1.68	1.98
Pleuritis	2.73	.....	.....	.16	3.69	.....	.....	.12
Other diseases of the respiratory system	6.83	.....	.....	.15	8.38	.34	.34	.41
Diseases of the heart and valves	11.61	.....	.68	.36	7.37	.67	3.35	.69
Other diseases of the circulatory system	.....	.....	.....	.....	1.34	.34	1.01	.28
Tonsillitis	26.64	.....	.....	.43	41.89	.....	.....	.59
Dyspepsia, colic, and constipation	58.74	.....	.68	1.08	85.79	.....	.34	1.30
Other diseases of the digestive system	91.53	.68	2.05	2.47	85.79	.....	1.68	2.26
Diseases of the kidneys	1.37	.....	.68	.51	3.69	.67	.34	.40
Other diseases of the genito-urinary system (non-venereal)	12.98	.....	.68	.95	15.08	.....	1.01	1.21
Diseases of the locomotor system (excluding muscular rheumatism)	2.73		1.37	.29	4.02	.....	1.34	.21
Diseases of the integumentary system	55.33	.....	.68	2.05	63.00	.....	.67	1.77
All other diseases	10.25	.....	.....	.41	34.52	.34	.34	1.33
Heat stroke	4.78	.....	.....	.07	2.01	.....	.67	.10
Frostbite and general freezing	2.05	.....	.....	.07	1.01	.....	.....	.11
Contusions and sprains	147.53	.....	.....	2.86	160.52	.....	.34	3.31
Dislocations	4.10	.....	.....	.46	1.34	.....	.....	.02
Fractures (not gunshot)	6.15	.....	2.05	1.11	9.05	.67	1.01	1.10
Incised, lacerated, contused, and punctured wounds	56.69	.....	.....	2.13	70.04	.....	.....	1.99
Shot wounds	.68	2.05	.68	.002	7.04	1.68	1.34	1.35
All other injuries	36.20	1.37	.....	1.68	42.23	1.34	.34	1.33
Total for disease	1,073.08	4.10	17.76	31.80	1,274.46	5.70	25.80	37.59
Total for injuries	258.20	3.41	2.73	8.38	293.23	3.69	3.69	9.30
Total for all causes	1,331.28	7.51	20.49	40.18	1,567.69	9.38	29.49	46.89

TABLE XII.—*Specific febrile and acute infectious diseases in various armies.*

[Admission rates per 1,000 of strength.]

Diseases.	United States.			Austria-Hungary, 1889.	Belgium, 1889.	Great Britain. 1888.	Prussia, Saxony, Würtemberg. 1887–1888.
	1890.	1889.	1879–1888.				
Cerebro-spinal fever	.04	.....	.09	.02	.10	.01	.....
Chicken pox	.....	.04	.16	.....	.04	.08	.01
Cholera	.....	.....	.....	.....	.....	.....	.01
Diphtheria	.21	.16	.42	.09	.02	.12	1.07
Enteric fever	5.24	5.32	4.91	4.62	7.38	1.24	4.38
Measles	2.48	3.76	3.43	.49	.41	1.73	.95
Mumps	.87	8.32	3.32	2.00	.45	1.04	(*)
Scarlet fever	.25	.08	.18	.26	.20	2.33	.86
Smallpox	.04	.16	.15	.35	.15	.14	.....
Varioloid	.....	.08	.13	.....		2.58	.....
Typhus fever	.....	.....	.03	.02	.....	.....	.01
Whooping cough	.21	.04	.07	.....	.....	.01	.16
Yellow fever	.....	.....	.20	.....	.....	.....	.....

*Mumps are enumerated under the digestive system.

TABLE XIII.—*Distribution of specific febrile diseases, etc., at United States military posts during the year* 1890.

Posts.	Specific febrile and acute infectious diseases, excluding influenza, quinsy, and erysipelas.											Influenza.	Quinsy.	Erysipelas.	Aggregate.	Ratios per 1,000 of mean strength.
	Cerebro-spinal fever.	Dengue.	Diphtheria.	Enteric fever.	Measles.	Mumps.	Scarlet fever.	Smallpox.	Whooping cough.	Other infectious diseases.	Total.	Ratios per 1,000 of mean strength.							
Fort Sam Houston, Tex	.....	.....	.....	29	.....	1	.....	.....	.....	.....	30	49.50	104	.....	.....	134	221.12
Columbus Barracks, Ohio	.....	.....	.....	.....	21	.....	1	.....	.....	.....	22	43.82	29	.....	.....	51	101.59
Fort Leavenworth, Kans	.....	.....	.....	8	4	1	.....	.....	.....	.....	13	22.18	67	.....	5	85	145.05
Fort Elliott, Tex	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	12	98.36	55	.....	1	68	557.38
Fort Yates, N. Dak	.....	.....	.....	5	.....	.....	.....	.....	4	.....	9	31.36	142	.....	.....	151	526.13
Fort Niobrara, Nebr	.....	.....	.....	5	3	.....	.....	.....	.....	.....	8	21.16	67	.....	1	76	201.06
Fort Walla Walla, Wash	.....	.....	.....	6	.....	1	.....	.....	.....	.....	7	22.01	43	.....	.....	50	157.23
Fort Barrancas, Fla	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	6	69.77	.....	.....	.....	6	69.77
Fort Buford, N. Dak	.....	.....	.....	1	5	.....	.....	.....	.....	.....	6	23.17	57	.....	.....	63	243.24
Fort Custer, Mont	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	6	18.13	129	.....	1	136	410.88
Fort McIntosh, Tex	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	6	46.15	1	.....	1	8	61.54
Fort Robinson, Nebr	.....	.....	.....	5	.....	1	.....	.....	.....	.....	6	15.27	120	.....	2	128	325.70
Fort Douglas, Utah	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	5	11.82	42	.....	1	48	113.48
Fort Logan, Colo	.....	.....	.....	1	3	.....	1	.....	.....	.....	5	17.99	14	.....	6	25	89.93
Fort Sherman, Idaho	.....	.....	.....	1	4	.....	.....	.....	.....	.....	5	18.38	93	1	2	101	371.32
Whipple Barracks, Ariz	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	5	20.75	36	.....	.....	41	170.12
Fort Monroe, Va	.....	.....	.....	3	.....	.....	.....	.....	.....	1	4	9.24	108	.....	2	114	263.28
Fort Reno, Okla	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	4	13.51	.....	.....	.....	4	13.51
Fort Myer, Va	.....	.....	.....	1	.....	2	.....	.....	.....	.....	3	21.90	23	.....	.....	26	189.78
Fort D. A. Russell, Wyo	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	3	8.62	16	.....	.....	19	54.60
Vancouver Barracks, Wash	.....	.....	.....	.....	2	1	.....	.....	.....	.....	3	7.14	.....	.....	2	5	11.90
Field Department of Dakota	.....	.....	.....	1	1	1	.....	.....	.....	.....	3	3.91	1	.....	.....	4	5.22
Fort Assiniboine, Mont	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	4.58	97	.....	.....	99	226.54
Fort Canby, Wash	.....	.....	.....	.....	1	.....	.....	.....	1	.....	2	31.75	3	.....	.....	5	79.37
Fort Hamilton, N. Y	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	10.10	38	.....	.....	40	202.02
Fort Keogh, Mont	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	5.76	1	.....	3	6	17.29
Fort Marcy, N. Mex	.....	.....	.....	.....	1	.....	.....	1	.....	.....	2	18.18	6	.....	1	9	81.82
Fort McPherson, Ga	.....	.....	.....	1	.....	.....	.....	.....	.....	1	2	10.64	37	.....	.....	39	207.42
Mt. Vernon Barracks, Ala	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	18.02	19	.....	3	24	216.25
Fort Niagara, N. Y	.....	.....	.....	1	1	.....	.....	.....	.....	.....	2	17.54	23	.....	.....	25	219.30
Camp Pilot Butte, Wyo	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	25.64	13	.....	1	16	205.13
Fort Porter, N. Y	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	21.05	14	.....	.....	16	168.42
Presidio of San Francisco, Cal	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	4.40	83	.....	1	86	189.01
Fort Sidney, Nebr	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	9.80	.....	.....	3	5	24.51
Fort Snelling, Minn	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	6.90	24	.....	.....	26	89.66
Fort Stanton, N. Mex	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	15.04	47	.....	.....	49	368.42
Fort Trumbull, Conn	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	38.46	18	.....	.....	20	384.62
Watervliet Arsenal, N. Y	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	33.33	4	.....	..	6	100.00

TABLE XIII.—*Distribution of specific febrile diseases, etc., at United States military posts during the year* 1890.—Continued.

Posts.	Specific febrile and acute infectious diseases, excluding influenza, quinsy, and erysipelas.																
	Cerebro-spinal fever.	Dengue.	Diphtheria.	Enteric fever.	Measles.	Mumps.	Scarlet fever.	Smallpox.	Whooping cough.	Other infectious diseases.	Total.	Ratios per 1,000 of mean strength.	Influenza.	Quinsy.	Erysipelas.	Aggregate.	Ratios per 1,000 of mean strength.
Fort Adams, R. I						1					1	5.08	22			23	116.75
Chicago Headquarters, Ill				1							1	17.24	3			4	68.97
Fort Columbus, N. Y. H				1							1	6.10	12		1	14	85.37
Davids Island, N. Y. H					1						1	2.30	44		2	47	108.30
Camp Del Rio, Tex				1							1	76.92	1			2	153.85
Frankford Arsenal, Pa			1								1	26.32	15			16	421.05
Fort Grant, Ariz					1						1	3.06	213			214	654.43
Camp Guthrie, Okla				1							1	23.26	1			2	46.51
Hot Springs, Ark					1						1	21.28	1			2	42.55
Jackson Barracks, La						1					1	10.87	15			16	173.91
Jefferson Barracks, Mo				1							1	2.46			1	2	4.93
Kennebec Arsenal, Me				1							1	66.67	10			11	733.33
Fort Lewis, Colo						1					1	5.05	40		1	42	212.12
Fort Abraham Lincoln, N. Dak	1										1	10.53	36			37	389.47
Madison Barracks, N. Y				1							1	4.03	29			30	120.97
Fort Maginnis, Mont							1				1	13.16	46		1	48	631.58
Fort McHenry, Md							1				1	10.10	24			25	252.53
Fort McKinney, Wyo					1						1	6.85				1	6.85
Fort Meade, S. Dak				1							1	3.25	19		1	21	68.18
Camp Pena Colorado, Tex						1					1	18.52	3			4	74.07
Fort Pierre, S. Dak						1					1	29.41	6			7	205.88
Plattsburg Barracks, N. Y					1						1	21.28	12			13	276.60
San Carlos, Ariz					1						1	4.00	75			76	304.00
St. Francis Barracks, Fla		1									1	15.38				1	15.38
Fort Sully, S. Dak						1					1	8.93				1	8.93
Fort Warren, Mass				1							1	11.63	5			6	69.77
Washington Barracks, D. C					1						1	3.92	3			4	15.69
Fort Wayne, Mich					1						1	4.74	40			41	194.31
Willets Point, N. Y				1							1	2.50	44		1	46	115.00
Field Department of the East				1							1	28.57				1	28.57
Field Department of the Missouri						1					1	20.41				1	20.41
Field Department of California				1							1	8.40			1	2	18.81
Fort Wingate, N. Mex													145		1	146	406.69
West Point, N. Y													139			139	367.72
Fort Clark, Tex													112			112	232.85
Fort Sill, Okla													91		1	92	278.79
Fort Apache, Ariz													85			85	351.24
Fort Riley, Kans													70			70	109.03
Fort Washakie, Wyo													70			70	630.63
Fort Huachuca, Ariz													58		4	62	225.45
Camp Poplar River, Mont													51		2	53	546.39
Fort Missoula, Mont													52			52	309.52
Fort Randall, S. Dak													51		1	52	509.80
Fort Spokane, Wash													49			49	245.00
Fort Mackinac, Mich													44			44	468.09
Fort Omaha, Nebr													41			41	98.80
Fort Bidwell, Cal													40			40	563.38
Fort Thomas, Ariz													39			39	367.92
Fort Lowell, Ariz													34			34	200.00
Fort Supply, Ind. T													32			32	153.11
Fort Bayard, N. Mex													31			31	106.16
Fort Bowie, Ariz													30			30	252.10
Leavenworth Prison Guard, Kans													29			29	252.17
Fort Laramie, Wyo													28			28	2,000*
Angel Island, Cal													27			27	143.62
Fort Du Chesne, Utah													25		1	26	100.00
Little Rock Barracks, Ark													25			25	423.73
Rock Island Arsenal, Ill													23			23	383.33
Fort Verde, Ariz													22			22	423.08
Fort Crawford, Cal													20		1	21	313.43
Fort McDowell, Ariz													21			21	403.85

* Fort Laramie. This rate (2,000) is excessive. Post was abandoned in March, the average strength becoming only 14 for the year, while it was 77 during the prevalence of the disease, January, 1890. The rate to actual strength is 363.63.

TABLE XIII.—*Distribution of specific febrile diseases, etc., at United States military posts during the year* 1890—Continued.

Posts.	Specific febrile and acute infectious diseases, excluding influenza, quinsy, and erysipelas.												Influenza.	Quinsy.	Erysipelas.	Aggregate.	Ratio per 1,000 of mean strength.
	Cerebro-spinal fever.	Dengue.	Diphtheria.	Enteric fever.	Measles.	Mumps.	Scarlet fever.	Smallpox.	Whooping cough.	Other infectious diseases.	Total.	Ratios per 1,000 of mean strength.					
Benicia Barracks, Cal													18			18	236.84
Alcatraz Island, Cal													17			17	184.78
Fort Bliss, Tex													17			17	138.21
Fort Shaw, Mont													16			16	100.63
Fort Mojave, Ariz													14			14	500.00
Camp Sheridan, Wyo													14			14	215.38
Fort Totten, N. Dak													14			14	215.38
Fort Wadsworth, N. Y													14			14	126.13
Fort Ringgold, Tex													13			13	109.24
Fort Bennett, S. Dak													11		1	12	206.90
Indianapolis Arsenal, Ind													12			12	480.00
Fort Mason, Cal													11		1	12	187.50
Fort Union, N. Mex													7	5		12	84.51
Fort Brady, Mich													11			11	115.79
Fort Hancock, Tex													11			11	224.49
Fort Ontario, N. Y													11			11	255.81
Benicia Arsenal, Cal													9			9	173.08
San Diego Barracks, Cal													9			9	147.54
Fort Sheridan, Ill													9			9	89.11
Camp Oklahoma, Okla													8			8	102.56
Fort Pembina, N. Dak													6			6	80.00
Augusta Arsenal, Ga													5			5	192.31
Fort Preble, Me													5			5	92.59
Fort Selden, N. Mex													5			5	294.12
Watertown Arsenal, Mass													5			5	151.52
Fort Wood, N. Y													4			4	86.96
Fort Klamath, Oregon													3			3	600.00
Camp Langtry, Tex													3			3	230.77
Fort Townsend, Wash													3			3	51.72
Fort Bridger, Wyo													2			2	14.08
San Antonio Headquarters, Tex													2			2	62.50
Springfield National Armory, Mass													2			2	71.43
Boise Barracks, Idaho															1	1	9.52
Newport Barracks, Ky													1			1	16.13
Sandy Hook, N. J													1			1	31.25
Total	1	7	5	127	60	21	6	1	5	2	235		4,070	6	59	4,370	

TABLE XIV.—*Showing the distribution of pneumonia at United States military posts during the year* 1890.

[Cases of pneumonia, complications of other diseases not included.]

Names of posts.	Admissions.			Dispositions.			Right lung.						Left lung.				Both lungs.						
	Total.	White.	Colored.	Duty.	Died.	Otherwise.	Upper lobe.	Middle lobe.	Lower lobe.	Middle and lower lobes.	Entire.	Total.	Upper lobe.	Lower lobe.	Entire.	Total.	Lower lobes.	Entire.	Upper and lower right and lower left.	Lower left and upper right.	Both upper.	Total.	Lung not given.
Fort Robinson, Nebr	12	3	9	9	3	..	..	..	7	..	..	7	..	4	..	4	1	..	..	..	..	1	..
Columbus Barracks, Ohio	6	6	..	3	1	1	2	..	..	..	..	2	..	2	..	2	..	2	..	..	..	2	..
Fort Douglas, Utah	5	5	..	4	..	1	..	..	1	..	..	1	..	2	2	4	..	..	..	..	..	..	..
Fort Leavenworth, Kans.	5	4	1	2	1	2	..	..	2	..	..	2	..	3	..	3	..	..	..	..	..	..	..
Fort Abraham Lincoln, S. Dak	3	3	..	2	..	1	..	..	2	..	..	2	..	1	..	1	..	..	..	..	..	..	..
Dakota, Field	3	3	..	..	..	3	..	..	2	..	..	2	..	..	..	..	..	1	..	..	..	1	..
David's Island, N. Y.	3	3	..	2	1	..	..	..	1	1	1	3	..	..	..	..	..	..	..	..	..	..	..
Fort Omaha, Nebr	3	3	..	1	..	2	1	..	..	1	..	2	..	..	1	1	..	..	..	..	..	..	..
Fort Totten, N. Dak	3	3	..	3	..	..	..	..	1	..	..	1	..	..	1	1	..	..	1	..	..	1	..
Vancouver Barracks, Wash	3	3	..	1	1	2	1	..	1	..	..	2	..	..	..	..	1	..	..	..	..	1	..
Fort Bayard, N. Mex.	2	..	2	1	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1	..
Fort Custer, Mont.	2	2	..	1	..	1	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..
Fort Grant, Ariz	2	1	1	1	..	1	..	..	..	..	..	..	1	1	..	2	..	..	..	..	..	..	..
Fort McKinney, Wyo	2	..	2	2	..	..	..	..	1	..	..	1	..	1	..	1	..	..	..	..	..	..	..
Fort Meade, S. Dak.	2	2	..	2	..	..	..	..	1	..	..	1	..	1	..	1	..	..	..	..	..	..	..
Presidio of San Francisco, Cal	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Fort Shaw, Mont.	2	..	2	..	1	1	..	..	1	..	..	1	..	1	..	1	..	..	..	..	..	..	..
Fort Sherman, Idaho	2	2	..	1	1	..	..	..	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..
Fort Walla Walla, Wash	2	2	..	2	..	..	..	..	1	..	..	1	..	1	..	1	..	..	..	..	..	..	..
Fort Wingate, N. Mex.	2	2	..	2	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..
Fort Assiniboine, Mont	1	1	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Augusta Arsenal, Ga.	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Fort Barrancas, Fla	1	1	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Fort Bennett, S. Dak	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Benicia Barracks, Cal	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Boisé Barracks, Idaho	1	1	..	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Chicago, Ill	1	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
Fort Davis, Tex.	1	1	..	1	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..
Fort D. A. Russell, Wyo.	1	1	..	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Fort Gibson, Ind. T	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Fort Lewis, Colo	1	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	..
Little Rock Bks, Ark.	1	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Fort Maginnis, Mont.	1	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	..
Fort Monroe, Va.	1	1	..	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Camp at Monterey, Cal.	1	1	..	..	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..
Camp Pilot Butte, Wyo	1	1	..	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Fort Porter, N. Y	1	1	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
Fort Reno, Ind. T	1	1	..	..	..	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Rock Island Arsenal, Ill	1	1	..	1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..
San Carlos, Ariz	1	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Francis Bks, Fla	1	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..
Fort Sam Houston, Tex.	1	1	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Fort Sheridan, Ill	1	1	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Fort Snelling, Minn	1	1	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Fort Sully, S. Dak	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fort Supply, S. Dak.	1	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
Fort Thomas, Ariz.	1	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
Washington Bks, D. C	1	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Watertown Arsenal, Mass	1	1	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
West Point, N. Y	1	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Total	96	77	19	61	13	22	4	..	28	5	8	45	2	26	6	34	2	5	1	1	2	11	6
At large	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..

TABLE XV.—*Twenty posts giving the highest admission rates for malarial diseases, rheumatism, diarrhœa, and venereal diseases, respectively during* 1890.

I—MALARIAL DISEASES.

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength. Admissions.	Deaths.	Discharges for disability.	Constantly non-effective.
Fort Sill, Okla	330	754.55	.....	3.03	12.12
St. Francis Barracks, Fla	65	646.20	.....	.....	26.05
Fort Clark, Tex	481	451.14	2.08	.....	18.38
Newport Barracks, Ky	62	371.00	.....	.....	4.33
Camp at Eagle Pass, Tex	56	357.14	.....	.....	8.07
Jackson Barracks, La	92	336.96	.....	.....	5.33
Fort Reno, Okla	296	334.46	3.38	3.38	10.49
Fort Brown, Tex	135	325.91	.....	.....	8.32
Fort Sam Houston, Tex	606	247.51	.....	1.65	10.59
Fort Apache, Ariz	242	235.53	.....	4.13	7.87
Mount Vernon Barracks, Ala	111	225.22	.....	.....	19.58
Fort Davis, Tex	201	208.95	.....	.....	15.09
Jefferson Barracks, Mo	406	192.12	.....	.....	5.22
Fort Myer, Va	137	175.17	.....	.....	7.60
Fort Lewis, Col	198	171.71	.....	.....	3.00
Plattsburg Barracks, N. Y	47	170.22	.....	.....	2.74
Fort Hamilton, N. Y	198	161.61	.....	.....	4.26
Fort Barrancas, Fla	86	139.53	.....	.....	5.77
Fort Bowie, Ariz	119	134.45	.....	.....	1.89
Fort Elliott, Tex	122	131.14	.....	.....	1.50

II.—RHEUMATISM.

[Muscular and articular.]

Fort Canby, Wash	63	222.22	.....	.....	3.96
Rock Island Arsenal, Ill	60	216.67	.....	50.00	10.64
Fort Apache, Ariz	242	214.87	.....	4.13	4.39
Fort Grant, Ariz	327	195.72	.....	3.06	9.78
Fort Washakie, Wyo	111	171.17	.....	.....	4.32
Fort Totten, N. Dak	65	169.22	.....	.....	4.21
San Carlos, Ariz	250	168.00	.....	4.00	4.54
Fort Robinson, Nebr	393	165.39	.....	2.54	7.19
San Diego Barracks, Cal	61	163.93	.....	.....	4.63
Fort Bowie, Ariz	119	159.65	.....	.....	4.54
Benicia Barracks, Cal	76	157.89	.....	13.16	11.32
Fort Snelling, Minn	290	148.25	.....	3.45	8.41
Fort Stanton, N. Mex	133	142.75	.....	.....	3.19
Fort Lewis, Colo	198	141.41	.....	5.05	4.94
Camp Sheridan, Wyo	65	138.46	.....	.....	3.54
Fort McPherson, Ga	188	138.30	.....	.....	3.29
Benicia Arsenal, Cal	52	134.61	.....	19.23	2.95
Fort Sheridan, Ill	101	128.72	.....	.....	4.91
Fort Sherman, Idaho	272	128.68	.....	.....	2.56
Whipple Barracks, Ariz	241	128.63	.....	.....	5.71

III—DIARRHŒAL DISEASES.

Fort Sam Houston, Tex	606	430.70	.....	1.65	5.75
Fort Sill, Okla	330	384.84	.....	.....	7.13
Fort Barrancas, Fla	86	372.10	.....	.....	6.82
Madison Barracks, N. Y	248	342.73	.....	.....	4.42
Fort Monroe, Va	433	339.50	.....	.....	4.40
Fort McPherson, Ga	188	324.48	.....	.....	2.80
Jackson Barracks, La	92	304.34	.....	.....	4.52
Mount Vernon Barracks, Ala	111	279.27	.....	.....	5.03
Willets Point, N. Y. H	400	270.00	.....	.....	2.07
San Carlos, Ariz	250	252.00	.....	.....	3.25
Camp Pena Colorado, Tex	54	240.74	.....	.....	4.21
Fort Hamilton, N. Y	198	237.37	.....	.....	2.37
Fort Niobrara, Nebr	378	230.15	.....	.....	1.36
Fort Reno, Okla	296	229.73	.....	.....	5.13
Fort Robinson, Nebr	393	223.91	.....	.....	1.53
Watervliet Arsenal, N. Y	60	216.67	.....	.....	1.55
Fort Myer, Va	137	204.38	.....	.....	3.78
Fort Apache, Ariz	242	190.07	.....	.....	1.31
Fort Brown, Tex	135	185.18	.....	.....	1.93
Fort Du Chesne, Utah	260	165.38	.....	.....	.83

TABLE XV.—*Twenty posts giving the highest admission rates for malarial diseases, rheumatism, diarrhœa, etc*—Continued.

IV.—VENEREAL DISEASES.

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges for disability.	Constantly non-effective.
Columbus Barracks, Ohio	502	380.46	.....	41.83	24.74
Camp at Eagle Pass, Tex	56	303.58	.....	.....	18.15
Fort McPherson, Ga	188	223.40	.....	5.32	17.46
Fort Barrancas, Fla	86	197.68	.....	.....	10.42
Fort Ontario, N. Y	43	186.04	.....	23.26	5.61
Fort Brady, Mich	95	178.95	.....	.....	6.08
Jefferson Barracks, Mo	406	167.49	.....	17.24	10.31
Jackson Barracks, La	92	163.04	.....	10.87	16.40
Fort Brown, Tex	135	162.95	.....	7.41	14.04
Newport Barracks, Ky	62	161.29	.....	.....	6.80
Fort Clark, Tex	481	153.85	.....	2.08	12.69
Plattsburg Barracks, N. Y	47	148.93	.....	.....	6.59
Fort Preble Me	54	148.14	.....	.....	6.19
Fort Sam Houston, Tex	606	141.92	.....	3.30	8.87
Fort Walla Walla, Wash	318	135.21	.....	6.29	10.91
Alcatraz Island, Cal	92	119.56	.....	10.87	8.40
Fort Grant, Ariz	327	119.27	.....	.....	7.88
Washington Barracks, D. C	255	117.66	.....	.....	10.19
Fort Wayne, Mich	211	113.74	.....	.....	3.67
Davids Island, N. Y. H	434	105.99	.....	.....	5.86

TABLE XVI.—*Twenty posts giving the highest non-effective rates for malarial diseases, rheumatism, diarrhœal and venereal diseases, respectively, during* 1890.

I.—MALARIAL DISEASES.

Names of stations.	Mean strength.	Constantly noneffective per 1,000 of mean strength.	Average number sick daily.	Average number of days each case was treated.
St. Francis Barracks, Fla	65	26.05	1.69	14.71
Mount Vernon Barracks, Ala	111	19.58	2.17	31.72
Fort Clark, Tex	481	18.38	8.84	14.87
Fort Davis, Tex	201	15.09	3.03	26.36
Fort Sill, Okla	330	12.12	4.00	5.86
Fort Sam Houston, Tex	606	10 59	6 42	15.62
Fort Reno, Okla	296	10.49	3.10	11.44
Fort Brown, Tex	135	8.32	1.12	9.32
Camp at Eagle Pass, Tex	56	8.07	0.45	8.25
Fort Apache, Ariz	242	7.87	1.90	12.19
Fort Myer, Va	137	7.60	1.04	15.83
Fort McPherson, Ga	188	6.38	1.20	18.25
Fort Barrancas, Fla	86	5.77	0.50	15.08
Fort McHenry, Md	99	5.65	0.56	29.14
Boise Barracks, Idaho	105	5.48	0.58	30.00
Jackson Barracks, La	92	5.33	0.49	5.77
Fort Leavenworth (post) Kans	586	5.28	3.10	15.48
Jefferson Barracks, Mo	406	5.22	2.12	9.92
Fort Marcy, N. Mex	110	4.33	0.48	19.33
Columbus Barracks, Ohio	502	4.32	2.17	14.14

TABLE XVI.—*Twenty posts giving the highest non-effective rates for malarial diseases, rheumatism, etc.*—Continued.

II.—RHEUMATISM.

[Muscular and articular.]

Names of stations.	Mean strength.	Constantly noneffective per 1,000 of mean strength.	Average number sick daily.	Average number of days each case was treated.
Benicia Barracks, Cal	76	11.32	0.86	26.17
Rock Island Arsenal, Ill	60	10.64	0.64	17.92
Fort McHenry, Md	99	10.40	1.03	34.18
Fort Grant, Ariz	327	9.78	3.20	18.25
Fort Snelling, Minn	290	8.41	2.44	20.70
Fort Sidney, Nebr	204	7.51	1.53	22.36
Fort Robinson, Nebr	393	7.19	2.83	15.88
Fort Mead, S. Dak	308	6.64	2.04	37.30
Fort Wingate, N. Mex	359	6.51	2.34	26.66
Fort Douglas, Utah	423	6.48	2.74	25.67
Fort Thomas, Ariz	106	6.46	0.68	31.25
Fort Logan, Colo	278	6.06	1.68	19.84
Whipple Barracks, Ariz	241	5.71	1.38	16.19
Fort Elliott, Tex	122	5.61	0.68	41.67
Fort Bennett, S. Dak	58	5.48	0.32	116.00
Fort Bayard, N. Mex	292	5.30	1.55	16.62
Fort Lewis, Colo	198	4.94	0.98	12.75
Fort Custer, Mont	331	4.92	1.63	22.00
Fort Sheridan, Ill	101	4.91	0.50	13.92
Fort Pembina, N. Dak	75	4.79	0.36	131.00

III.—DIARRHŒAL DISEASES.

Fort Schuyler, N. Y	78	8.11	0.63	77.00
Fort Sill, Okla	330	7.13	2.35	6.76
Fort Barrancas, Fla	86	6.82	0.59	6.69
Fort Sidney, Nebr	204	6.21	1.27	20.09
Fort Sam Houston, Tex	606	5.75	3.49	4.88
San Diego Barracks, Cal	61	5.48	0.33	40.67
Fort Reno, Okla	296	5.13	1.52	8.19
Mount Vernon Barracks, Ala	111	5.03	0.56	6.58
Jackson Barracks, La	92	4.52	0.42	5.43
Madison Barracks, N. Y	248	4.42	1.10	4.73
Fort Monroe, Va	433	4.40	1.90	4.73
Camp Pena Colorado, Tex	54	4.21	0.23	6.38
Fort Myer, Va	137	3.78	0.52	6.75
Fort Ringgold, Tex	119	3.48	0.41	8.88
Fort Elliott, Tex	122	3.44	0.42	8.50
San Carlos, Ariz	250	3.25	0.81	4.71
Fort McPherson, Ga	188	2.80	0.53	3.15
Fort Wadsworth, N. Y	111	2.76	0.31	28.00
Whipple Barracks, Ariz	241	2.66	0.64	6.88
Fort Huachuca, Ariz	275	2.61	0.72	29.11

IV.—VENEREAL DISEASES.

Columbus Barracks, Ohio	502	24.74	12.42	23.73
Camp at Eagle Pass, Tex	56	18.15	1.02	21.82
Fort McPherson, Ga	188	17.46	3.28	28.52
Jackson Barracks, La	92	16.40	1.51	36.73
Fort Brown, Tex	135	14.04	1.90	31.45
Fort Clark, Tex	481	12.69	6.10	30.11
Fort Walla Walla, Wash	318	10.91	3.47	29.44
Fort Logan, Colo	278	10.76	2.99	43.68
Fort Barrancas, Fla	86	10.42	0.90	19.24
Jefferson Barracks, Mo	406	10.31	4.19	22.49
Washington Barracks, D. C	255	10.19	2.60	31.63
Fort Sam Houston, Tex	606	8.87	5.38	22.81
Fort Gibson, Ind. T	47	8.57	0.40	147.00
Alcatraz Island, Cal	92	8.40	0.77	25.64
Fort McHenry, Md	99	8.33	0.82	50.17
Fort Grant, Ariz	327	7.88	2.58	24.13
Fort Supply, Ind. T	209	7.65	1.60	27.81
Fort Wingate, N. Mex	359	7.38	2.65	33.34
Fort Apache, Ariz	242	7.02	1.70	31.00
Fort McDowell, Ariz	52	6.95	0.36	66.00

TABLE XVII.—*Prevalence of alcoholism at the various posts and its influence on the effective force of the garrisons for the year* 1890.

Posts.	Mean strength.	Ratio per 1,000 of mean strength.		Posts.	Mean strength.	Ratio per 1,000 of mean strength.	
		Admissions.	Constantly noneffective.			Admissions.	Constantly noneffective.
Fort Ontario, N. Y	43	279.07	3.19	Fort Lowell, Ariz	170	41.18	.56
Camp Del Rio, Tex	13	230.75	3.16	Fort Hancock, Tex	49	40.82	.34
Watertown Arsenal, Mass	33	212.12	1.41	Field, Dept. of the Missouri	49	40.82	.11
Fort McPherson, Ga	188	191.50	2.11	Fort Verde, Ariz	52	38.46	.47
Camp Pena Colorado, Tex	54	166.67	1.22	Angel Island, Cal	188	37.23	.35
Jackson Barracks, La	92	163.03	2.95	Fort Columbus, N. Y	164	36.59	.28
Whipple Barracks, Ariz	241	157.67	1.06	Field, Dept. of Texas	83	36.14	.26
Willets Point, N. Y	400	157.50	1.89	Fort Washakie, Wyo	111	36.04	.10
Camp Pilot Butte, Wyo	78	153.84	1.40	Fort Hamilton, N. Y	198	35.35	5.05
Rock Island Arsenal, Ill	60	150.00	1.28	Fort McKinney, Wyo	146	34.25	.30
Fort Marcy, N. Mex	110	136.36	.82	Fort Wingate, N. Mex	359	33.43	.43
Fort Brown, Tex	135	133.33	1.58	Fort Canby, Wash	63	31.75	.57
Fort Mackinac, Mich	94	127.66	1.25	Fort McIntosh, Tex	130	30.77	.19
Fort Bridger, Wyo	142	126.76	1.43	Fort Robinson, Nebr	393	30.53	.28
Fort Wayne, Mich	211	113.74	1.18	Fort Pierre, S. Dak	34	29.41	.08
St. Francis Barracks, Fla	65	107.69	1.48	Fort Leavenworth, Kans	586	29.01	.36
Allegheny Arsenal, Pa	29	103.45	.57	Presidio of San Francisco, Cal	455	28.57	.23
Fort Stanton, N. Mex	133	97.74	.97	Boisé Barracks, Idaho	105	28.57	.18
Fort Thomas, Ky	31	96.78	.53	Camp Oklahoma, Okla	78	25.64	.14
Fort Barrancas, Fla	86	93.03	.96	Fort Schuyler, N. Y	78	25.64	.07
Fort McHenry, Md	99	90.91	3.87	Field, Dept. of California	119	25.21	.12
Fort Crawford, Colo	67	89.55	1.35	Fort Gaston, Cal	40	25.00	.07
Plattsburg Barracks, N. Y	47	85.11	.58	Field, Dept. of the Platte	126	23.81	.24
Fort Brady, Mich	95	84.21	.52	Fort Gibson, Ind. T	47	21.28	.23
Fort Porter, N. Y	95	84.21	1.07	Fort Sill, Okla	330	21.21	.32
Newport Barracks, Ky	62	80.65	.35	Fort Union, N. Mex	142	21.13	.21
Fort Spokane, Wash	200	80.00	.64	Fort Lewis, Colo	198	20.20	1.40
Fort Mason, Cal	64	78.12	.64	Washington Barracks, D. C	255	19.61	.26
Fort Sherman, Idaho	272	77.21	.59	Fort Randall, S. Dak	102	19.61	.83
Fort Preble, Me	54	74.07	.20	Fort McDowell, Ariz	52	19.23	.05
Vancouver Barracks, Wash	420	73.87	1.28	Columbus Barracks, Ohio	502	17.93	.17
Fort A. Lincoln, Nebr	95	73.68	.58	Fort Missoula, Mont	168	17.86	.13
Fort Du Chesne, Utah	260	73.08	.51	Fort Bennett, S. Dak	58	17.24	.24
Camp at Eagle Pass, Tex	56	71.43	.73	Fort Townsend, Wash	58	17.24	.09
Fort Mojave, Ariz	28	71.43	.39	Fort Ringgold, Tex	119	16.81	.12
Fort Laramie, Wyo	14	71.43	.59	Fort Elliott, Tex	122	16.39	.27
Fort Douglas, Utah	423	66.19	1.03	San Diego Barracks, Cal	61	16.39	.31
Fort Buford, N. D	259	65.64	.67	Fort Bliss, Tex	123	16.26	.07
Fort Wadsworth, N. Y	111	63.06	.81	Camp Sheridan, Wyo	65	15.38	.04
Fort Trumbull, Conn	52	57.69	.21	Fort Totten, N. Dak	65	15.38	.13
Fort Logan, Colo	278	57.56	.71	Fort Supply, Ind. T	209	14.35	.13
Field, Dept. of the East	35	57.14	.31	Fort Bidwell, Cal	71	14.08	.12
Fort Davis, Tex	201	54.72	.49	Fort Snelling, Minn	290	13.79	.16
Fort Sidney, Nebr	204	53.92	.42	Fort Meade, S. Dak	308	12.99	.26
Fort Pembina, N. Dak	75	53.33	.26	Fort Omaha, Nebr	415	12.05	.28
Benicia Barracks, Cal	76	52.63	.25	Davids Island, N. Y	434	11.52	.07
Fort Keogh, Mont	347	51.87	.32	Alcatraz Island, Cal	92	10.87	.12
Camp Poplar River, Mont	97	51.55	.20	Fort Riley, Kans	649	9.35	.09
Fort Clark, Tex	481	49.89	.59	Fort Grant, Ariz	327	9.17	.06
Fort Sheridan, Ill	101	49.50	.57	Fort Assinniboine, Mont	437	9.15	.09
Fort D. A. Russell, Wyo	348	48.85	.58	Field, Dept. of Dakota	767	9.13	.04
Fort Walla Walla, Wash	318	47.17	.51	Fort Sully, S. Dak	112	8.93	.05
Fort Warren, Mass	86	46.51	.41	Fort Apache, Ariz	242	8.26	.07
Fort Yates, N. Dak	287	45.30	.41	West Point, N. Y	378	7.94	.05
Mt. Vernon Barracks, Ala	111	45.05	.59	Fort Myer, Va	137	7.30	.08
Fort Niobrara, Nebr	378	44.97	.72	Fort Huachuca, Ariz	275	7.25	.04
Madison Barracks, N. Y	248	44.35	.46	Fort Bayard, N. Mex	292	6.85	.03
Field, Dept. of the Columbia	23	43.48	.36	Fort Reno, Okla	296	6.76	.06
Fort Bowie, Ariz	119	42.02	.39	Fort Adams, R. I	197	5.08	.01
Fort Monroe, Va	433	41.57	.33	Jefferson Barracks, Mo	406	4.93	.03
Fort Sam Houston, Tex	606	41.25	.47	Fort Custer, Mont	331	3.02	.02

TABLE XVIII.—*Showing the relation of certain classes*

Orders of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Specific febrile and acute infectious diseases.									
Admissions:									
Officers	174.26	207.71	207.35	240.00	75.00	25.32	113.64	.....	41.38
Enlisted men	180.72	172.88	240.35	175.63	244.93	223.00	132.95	82.16	29.70
Total	180.32	174.84	238.89	180.54	229.37	192.08	129.92	82.16	31.17
Noneffectiveness:									
Officers	6.36	5.48	10.89	10.52	1.64	2.01	3.36	.....	1.30
Enlisted men	3.61	3.56	4.38	3.43	7.31	4.26	2.32	2.34	.66
Total	3.78	3.67	4.67	3.97	6.79	3.91	2.48	2.34	.74
Deaths:									
Officers	.47	.....	2.34	.....	.....	.....	.....	.....	.....
Enlisted men	.86	.75	.87	1.52	2.34	.....	.....	.....	1.83
Total	.82	.69	.96	1.37	2.06	.....	.....	.....	1.54
Malarial diseases.									
Admissions;									
Officers	55.63	60.30	86.96	75.00	.....	.....	45.46	.....	.....
Enlisted men	95.37	84.02	130.17	98.31	98.48	98.59	39.60	83.50	34.65
Total	92.93	82.67	128.22	96.54	89.44	83.16	40.52	83.50	30.30
Noneffectiveness:									
Officers	2.79	2.56	3.82	2.92	.....	.....	6.91	.....	.....
Enlisted men	2.79	2.75	3.35	3.09	1.92	1.59	1.20	2.77	.88
Total	2.79	2.74	3.39	3.08	1.75	1.35	2.10	2.77	.77
Deaths:									
Officers	.47	.....	2.34	.....	.....	.....	.....	.....	.....
Enlisted men	.12	.19	.15	.....	.....	.....	.....	.....	.....
Total	.15	.17	.27	.....	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	.24	.19	.15	.....	.....	.....	1.31	1.25	.....
Typho-malarial fever.									
Admissions:									
Enlisted men	.18	.....	.47	.....	.....	.....	.....	.....	.99
Total	.17	.....	.45	.....	.....	.....	.....	.....	.87
Noneffectiveness:									
Enlisted men	.05	.....	.13	.....	.....	.....	.....	.....	.20
Total	.04	.....	.13	.....	.....	.....	.....	.....	.18
Deaths:									
Enlisted men	.04	.....	.15	.....	.....	.....	.....	.....	.....
Total	.04	.....	.14	.....	.....	.....	.....	.....	.....
Diarrhœal diseases.									
Admissions:									
Officers	65.68	78.73	76.92	100.00	25.00	.....	53.03	.....	.....
Enlisted men	128.13	120.69	147.30	185.93	108.59	295.77	35.36	61.95	40.59
Total	124.29	118.31	144.13	179.40	100.92	249.50	38.14	61.95	35.50
Noneffectiveness:									
Officers	1.78	1.67	1.70	5.29	.48	.....	.60	.....	.....
Enlisted men	1.63	1.47	2.05	2.01	4.18	2.37	.30	.73	.50
Total	1.64	1.48	2.03	2.26	3.85	2.00	.35	.73	.44
Discharges:									
Enlisted men	.33	.28	.44	.38	.....	.....	1.31	.....	.....
Septic disease.									
Admissions:									
Enlisted men	.09	.20	.....	.....	.....	.....	.....	.....	.....
Total	.08	.19	.....	.....	.....	.....	.....	.....	.....
Noneffectiveness:									
Enlisted men	.001	.002	.....	.....	.....	.....	.....	.....	.....
Total	.001	.002	.....	.....	.....	.....	.....	.....	.....
Venereal diseases.									
Admissions:									
Officers	8.04	10.05	3.34	20.00	.....	.....	7.58	.....	.....
Enlisted men	79.63	70.42	78.13	104.48	2.53	77.46	18.39	191.93	28.71
Total	75.22	66.99	74.77	98.06	2.29	65.35	16.69	191.93	25.11

of disease to arm of service and age of individual.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over
.....	372.88	231.09	184.87	198.20	157.30	182.74	111.11	45.45	58.82
170.37	224.99	183.03	150.46	165.73	162.79	114.46	120.27	75.76	368.41
170.37	226.43	184.61	152.30	168.78	162.30	126.07	116.37	56.82	169.80
.....	16.07	10.28	7.19	5.80	5.28	4.85	3.37	3.46	2.66
4.25	4.80	3.39	2.62	3.52	3.13	2.75	3.52	6.10	12.83
4.25	4.91	3.62	2.86	3.74	3.33	3.11	3.46	4.45	6.31
.....	.....	.....	.....	.....	3.92	.....	.....	.....	.....
.....	.94	.92	.66	.....	1.57	.96	.....	13.89	.....
.....	.92	.88	.61	.....	1.85	.76	.....	4.37	.....
.....	50.85	67.23	42.02	81.08	16.85	65.99	32.41	118.18	.....
70.37	135.23	97.69	76.41	76.35	57.66	56.19	41.24	45.45	.....
70.37	134.40	96.70	74.58	76.80	53.93	57.86	37.48	90.91	.....
.....	1.11	1.88	4.91	5.86	.26	3.46	1.28	1.59	.....
2.03	4.15	3.06	2.02	2.08	1.25	.93	1.54	1.16	.....
2.03	4.12	3.02	2.17	2.44	1.16	1.37	1.43	1.51	.....
.....	.....	2.92	.....	.....	.....	.....	.....	.....	.....
.....	.31	.....	.....	.43	.....	.....	.....	.....	.....
.....	.31	.13	.....	.38	.....	.....	.....	.....	.....
3.44	.16	.26	.....	.....	.52	.....	3.19	.....	.....
.....	.51	.....	.....	.47	.....	.....	.....	.....	.....
.....	.50	.....	.....	.42	.....	.....	.....	.....	.....
.....	.14	.....	.....	.09	.....	.....	.....	.....	.....
.....	.14	.....	.....	.09	.....	.....	.....	.....	.....
.....	.16	.....	.....	.....	.....	.....	.....	.....	.....
.....	.15	.....	.....	.....	.....	.....	.....	.....	.....
.....	84.75	84.03	63.03	31.53	50.56	71.07	101.85	45.45	29.41
85.18	160.83	133.56	97.71	121.04	100.62	88.45	178.69	75.76	52.63
85.18	160.07	131.93	95.86	112.66	96.04	85.49	145.95	56.82	37.74
.....	.70	4.67	.85	.25	.75	.85	.98	6.03	2.26
.52	1.96	1.33	1.50	1.70	1.58	1.42	5.15	2.82	.43
.52	1.95	1.44	1.47	1.57	1.51	1.32	3.39	4.83	1.60
.....	.47	.13	.22	1.29	.....	.....	.....	.....	.....
.....	.....	.28	.....	.....	.....	.....	.....	.....	.....
.....	.....	.27	.....	.....	.....	.....	.....	.....	.....
.....	.....	.002	.....	.003	.....	.....	.....	.....	.....
.....	.....	.002	.....	.002	.....	.....	.....	.....	.....
.....	33.90	16.80	16.80	4.50	.....	.....	4.63	.....	.....
107.41	143.15	91.03	48.02	28.86	10.18	6.24	3.44	.....	.....
107.41	142.06	88.60	46.36	26.58	9.24	5.18	3.94	.....	.....

TABLE XVIII.—*Showing the relation of certain classes of disease*

Orders of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Venereal diseases—Continued.									
Noneffectiveness:									
Officers	.33	.32	.71	.41	.....	.....	.06	.....	.....
Enlisted men	5.16	4.59	5.13	6.88	.05	4.15	.96	11.95	2.20
Total	4.86	4.34	4.93	6.39	.05	3.50	.82	11.95	1.93
Discharges:									
Enlisted men	2.89	1.68	2.62	1.91	.....	.....	1.31	18.09	.....
Zoögenous diseases.									
Admissions:									
Enlisted men	35.88	18.23	17.29	25.92	10.10	84.51	4.24	280.12	2.97
Total	33.67	17.20	16.52	23.95	9.18	71.29	3.58	280.12	2.60
Noneffectiveness:									
Enlisted men	1.19	.49	.40	1.29	.05	1.84	.03	10.57	.07
Total	1.12	.46	.39	1.19	.05	1.55	.03	10.57	.06
Deaths:									
Enlisted men	.04	.....	.....	.38	.....	.....	.....	.....	.....
Total	.04	.....	.....	.34	.....	.....	.....	.....	.....
Dietic diseases.									
Admissions:									
Officers	5.36	6.70	13.38	.....	.....	.....	.....	.....	.....
Enlisted men	43.88	59.64	20.44	60.47	55.56	147.89	31.12	4.71	14.85
Total	41.51	56.63	20.12	55.87	50.46	124.75	26.22	4.71	12.99
Noneffectiveness:									
Officers	.08	.11	.16	.....	.....	.....	.....	.....	.....
Enlisted men	.53	.69	.23	.81	.61	1.78	.31	.12	.35
Total	.50	.66	.23	.75	.55	1.50	.26	.12	.31
Deaths:									
Enlisted	.20	.28	.29	.....	.....	.....	.....	.....	.....
Total	.19	.26	.27	.....	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	.49	.47	.58	.76	.....	.....	1.31	.....	.....
Constitutional diseases.									
Admissions:									
Officers	90.48	127.30	63.55	140.00	50.00	12.66	53.03	.....	13.79
Enlisted men	87.77	91.98	100.93	81.86	113.64	147.89	62.23	43.77	24.75
Total	87.94	93.98	99.25	86.28	107.81	126.73	60.78	43.77	23.38
Noneffectiveness:									
Officers	6.83	9.21	6.22	10.11	2.47	.07	2.26	.....	2.85
Enlisted men	4.33	4.65	4.56	4.31	6.21	3.73	3.60	3.29	1.19
Total	4.48	4.91	4.64	4.75	5.87	3.16	3.39	3.29	1.40
Deaths:									
Enlisted men	.37	.37	.15	.38	.....	.....	1.31	.....	1.84
Total	.34	.35	.14	.34	.....	.....	1.05	.....	1.54
Discharges:									
Enlisted men	2.81	2.52	3.06	3.43	9.35	4.34	1.31	3.12	.....
Developmental diseases.									
Admissions:									
Officers	.67	1.68	.....	.....	.....	.....	.....	.....	.....
Enlisted men	.48	.60	.47	.41	.....	.....	.....	.67	.....
Total	.50	.67	.45	.38	.....	.....	.....	.67	.....
Noneffectiveness:									
Officers	.42	1.05	.....	.....	.....	.....	.....	.....	.....
Enlisted men	.05	.04	.02	.21	.....	.....	.....	.10	.....
Total	.08	.10	.02	.19	.....	.....	.....	.10	.....
Discharges:									
Enlisted men	.77	1.03	.58	.76	.....	.....	.....	.....	1.84
Parasitic diseases.									
Admissions:									
Enlisted men	3.65	2.22	3.77	3.29	.....	2.35	.....	18.18	.99
Total	3.42	2.09	3.60	3.04	.....	1.98	.....	18.18	.87
Noneffectiveness:									
Enlisted men	.09	.07	.06	.12	.....	.03	.....	.49	.02
Total	.09	.07	.06	.11	.....	.03	.....	.49	.02

to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	.65	1.32	.31	.04	.....	.....	.27	.....	.....
4.18	8.79	6.06	3.54	2.01	.79	.56	.10	.....	.....
4.18	8.71	5.90	3.37	1.82	.72	.46	.17	.....	.....
3.44	4.99	3.15	1.97	1.29	.52	.96	.....	.....	.....
88.89	84.88	27.93	12.78	9.31	4.52	5.20	13.75	.....	.....
88.89	84.04	27.02	12.09	8.44	4.11	4.32	7.89	.....	.....
2.46	2.97	.93	.35	.26	.04	.12	.13	.....	.....
2.46	2.94	.90	.33	.24	.04	.10	.08	.....	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.....	4.20	4.20	13.51	5.62	10.15	.....	.....	.....
3.70	13.30	25.52	47.55	86.13	111.36	103.02	158.08	106.06	157.89
3.70	13.17	24.82	45.24	79.33	101.69	87.22	90.73	39.77	56.60
.....	.....	.02	.07	.16	.23	.08	.....	.....	.....
.02	.18	.26	.53	.75	1.49	2.16	2.01	1.66	1.73
.02	.17	.25	.50	.70	1.36	1.81	1.16	.62	.62
.....	.....	.13	.....	.....	.52	.96	6.37	.....	.....
.....	.....	.13	.....	.....	.46	.76	3.21	.....	.....
.....	.78	.39	.22	.43	.52	.96	.....	.....	.....
.....	50.85	42.02	67.23	40.54	146.07	157.36	125.00	100.00	58.82
18.52	78.31	75.00	62.93	127.56	132.28	136.32	213.06	378.79	263.16
18.52	78.04	73.93	63.16	119.41	133.53	139.89	175.53	204.53	132.06
.....	11.56	1.36	5.04	.78	9.54	8.44	10.83	14.45	15.47
.61	3.18	3.96	3.99	5.44	6.59	6.56	10.45	24.44	9.37
.61	3.27	3.88	4.05	5.00	6.86	6.88	10.61	18.20	13.28
.....	.16	.13	.....	1.29	1.57	.....	3.18	.....	.....
.....	.15	.13	.....	1.14	1.39	.....	1.61	.....	.....
.....	1.72	2.76	1.97	3.45	5.76	3.86	9.55	13.89	50.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	29.41
.....	.37	.57	.....	.....	.57	2.08	3.44	.....	52.63
.....	.33	.55	.....	.....	.51	1.73	1.97	.....	37.74
.....	.....	.....	.....	.....	.....	.....	.....	.....	18.37
.....	.02	.04	.....	.....	.02	.07	.76	.....	26.37
.....	.02	.04	.....	.....	.02	.06	.44	.....	21.25
.....	.78	.53	.22	.....	1.05	1.93	9.55	27.78	.....
7.41	6.06	4.11	1.89	2.33	.57	2.08	.....	.....	.....
7.41	6.00	3.98	1.79	2.11	.51	1.73	.....	.....	.....
.08	.20	.07	.07	.10	.005	.03	.....	.....	.....
.08	.19	.07	.07	.09	.004	.03	.....	.....	.....

TABLE XVIII.—*Showing the relation of certain classes of*

Orders of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Diseases of the nervous system.									
Admissions:									
Officers	75.07	100.50	63.55	60.00	100.00	12.66	90.91	.....	27.59
Enlisted men	58.61	57.53	65.56	67.87	55.56	89.20	32.53	47.81	25.74
Total	59.63	59.96	65.47	67.28	59.64	77.23	41.72	47.81	25.97
Noneffectiveness:									
Officers	8.16	13.61	5.36	.40	2.12	.45	11.39	.....	5.08
Enlisted men	1.73	1.85	1.67	1.80	1.01	2.67	2.09	1.58	.65
Total	2.13	2.51	1.84	1.70	1.11	2.32	3.55	1.58	1.21
Deaths:									
Officers	4.68	8.19	.....	.....	35.09	.....	5.26	.....	.....
Enlisted men	.45	.47	.29	.38	.....	.....	1.31	.62	.92
Total	.79	1.04	.27	.34	4.12	.....	2.10	.62	.77
Discharges:									
Enlisted men	2.73	3.36	2.91	1.52	.....	2.17	3.93	1.87	.....
Diseases of the eye.									
Admissions:									
Officers	14.74	21.78	10.03	15.00	.....	.....	7.58	.....	13.79
Enlisted men	17.02	17.23	21.22	18.92	20.20	37.56	2.83	3.37	3.96
Total	16.88	17.48	20.72	18.62	18.35	31.68	3.58	3.37	5.19
Noneffectiveness:									
Officers	2.56	1.90	1.22	4.79	.....	.....	1.43	.....	8.07
Enlisted men	.69	.91	.59	.69	.53	.77	.53	.12	.21
Total	.81	.97	.62	1.01	.48	.65	.67	.12	1.20
Discharges:									
Enlisted men	1.59	1.96	1.46	1.14	.....	.....	2.62	.....	2.75
Diseases of the ear.									
Admissions:									
Officers	3.35	1.68	.....	15.00	.....	.....	7.58	.....	.....
Enlisted men	9.41	11.18	8.17	8.64	10.10	16.43	7.07	8.75	.99
Total	9.04	10.64	7.81	9.12	9.18	13.86	7.15	8.75	.87
Noneffectiveness:									
Officers	.11	.03	.....	.73	.....	.....	.....	.....	.....
Enlisted men	.43	.55	.31	.18	.28	1.22	.31	.83	.01
Total	.42	.52	.29	.22	.25	1.03	.26	.83	.01
Discharges:									
Enlisted men	.90	1.31	.44	.76	.....	.....	2.62	.62	.....
Diseases of the nose.									
Admissions:									
Officers	1.34	1.68	3.34	.....	.....	.....	.....	.....	.....
Enlisted men	2.46	2.32	2.04	4.11	5.05	18.78	.....	.....	.....
Total	2.39	2.28	2.10	3.80	4.59	15.84	.....	.....	.....
Noneffectiveness:									
Officers	.46	.59	1.14	.....	.....	.....	.....	.....	.....
Enlisted men	.12	.10	.13	.11	.36	1.25	.....	.....	.....
Total	.14	.13	.18	.10	.33	1.06	.....	.....	.....
Discharges:									
Enlisted men	.16	.19	.29	.....	.....	.....	.....	.....	.....
Diseases of the respiratory system.									
Admissions:									
Officers	125.34	165.83	150.50	150.00	25.00	25.32	60.61	.....	13.79
Enlisted men	110.54	115.66	109.42	153.02	189.40	213.61	39.60	50.50	28.71
Total	111.45	118.50	111.26	152.80	174.31	184.15	42.91	50.50	26.84
Noneffectiveness:									
Officers	5.47	6.34	4.33	8.96	1.78	.73	7.49	.....	1.21
Enlisted men	3.20	3.18	3.13	4.66	7.51	5.72	1.33	2.13	.46
Total	3.34	3.36	3.18	4.98	6.99	4.94	2.30	2.13	.56
Deaths:									
Officers	.94	2.34	.....	.....	.....	.....	.....	.....	.....
Enlisted men	1.51	1.03	2.18	1.52	.....	.....	1.31	1.87	2.75
Total	1.46	1.12	2.06	1.37	.....	.....	1.05	1.87	2.31
Discharges:									
Enlisted men	2.44	2.05	2.62	4.95	4.67	2.17	1.31	1.25	.92

disease to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	84.75	33.61	105 04	72.07	112.36	65.99	87.96	45.45	29.41
29.63	65 17	58.27	49.21	61.92	55.40	54.11	79.04	166.67	105.26
29.63	65.37	57.47	52.18	62.87	60.60	56.13	82.84	90.91	56.60
.....	9.24	1.12	9.50	4.38	10.07	10.90	14.69	8.64	1.85
1.02	1.45	1.35	1.87	2.33	1.97	3.52	2.49	6.35	3.75
1.02	1.52	1.34	2.28	2.52	2.71	4.77	7.69	7.78	2.53
.....	.....	.....	.....	6.31	3.92	7.07	12.94	6.37	.....
.....	.....	.26	.88	.....	.52	1.93	6.37	.....	.....
.....	.....	.25	.82	.76	.92	3.03	9.63	4.37	.....
.....	3.28	2.36	2.85	3.02	2.09	.96	6.37	13.89	.....
.....	16.95	33.61	16.81	27.03	5.62	.....	.....	16.18	.....
3.70	18.36	20.84	14.67	9.31	11.87	11.45	41.24	30.30	105.26
3.70	18.34	21.26	14.78	10.97	11.30	9.50	23.67	22.73	37.74
.....	.42	2.50	6.50	2.69	.09	.54	.....	8.44	.....
.61	.65	.76	.65	.34	.41	1.25	2.90	2.82	4.90
.01	.64	.82	.96	.56	.38	1.13	1.66	6.34	1.76
.....	1.25	1.84	1.53	.86	1.57	1.93	6.37	13.89	.....
.....	.....	4.20	4.20	9.01	.....	.....	.....	9.09	.....
.....	12.63	9.64	7.57	8.38	7.35	6.24	6.87	.....	.....
.....	12.51	9.46	7.39	8.44	6.68	5.18	3.94	5.68	.....
.....	.....	.10	.15	.38	.....	.....	.....	.15	.....
.....	.70	.41	.28	.51	.14	.24	.05	.....	.....
.....	.70	.41	.27	.50	.13	.20	.03	.09	.....
.....	1.09	.92	.44	1.29	.52	.96	.....	13.89	.....
.....	.....	.....	.....	.....	11.24	.....	.....	.....	.....
.....	2.86	3.12	1.89	.93	3.39	.....	3.44	.....	.....
.....	2.83	3.02	1.79	.84	4.11	.....	1.97	.....	.....
.....	.....	.....	.....	.....	3.88	.....	.....	.....	.....
.....	.15	.16	.07	.01	.17	.....	.47	.....	.....
.....	.15	.15	.07	.01	.51	.....	.27	.....	.....
.....	.16	.26	.22	.....	.....	.....	.....	.....	.....
.....	152.54	109.24	105.04	85.59	134.83	142.13	157.41	154.55	147.06
37.04	117.88	106.62	107.40	106.15	119.84	106.14	137.46	212.12	105.26
37.04	118.23	106.71	107.27	104.22	121.21	112.26	145.95	176.13	132.06
.....	1.53	3.70	2.22	3.46	10.33	8.01	7.01	5.68	10.07
.48	3.04	2.82	3.18	4.36	4.32	2.23	3.32	15.48	3.61
.48	3.02	2.85	3.13	4.28	4.87	3.21	4.90	9.36	7.75
.....	.....	.....	.....	.....	7.84	.....	.....	.....	.....
.....	1.40	.92	.66	3.02	2.62	1.93	6.37	13.89	50.00
.....	1.39	.88	.61	2.66	3.23	1.52	3.21	4.37	14.70
.....	2.81	2.23	2.63	2.59	2.62	.....	3.19	13.89	.....

TABLE XVIII.—*Showing the relation of certain classes of*

Orders of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Diseases of the circulatory system.									
Admissions:									
Officers	6.03	10.05	3.34	10.00					
Enlisted men	8.88	9.57	7.55	12.75	15.15	11.74	7.07	4.04	5.94
Total	8.71	9.60	7.36	12.54	13.76	9.90	5.96	4.04	5.19
Noneffectiveness:									
Officers	1.76	3.67	.34	1.67					
Enlisted men	.67	.83	.49	1.08	.96	.15	.16	.29	.23
Total	.74	.99	.49	1.13	.87	.12	.13	.29	.20
Deaths:									
Officers	1.40	1.17							9.62
Enlisted men	.41	.47	.44	.38					.92
Total	.49	.52	.41	.34					2.31
Discharges:									
Enlisted men	2.28	2.33	1.60	5.72	7.03			1.25	
Diseases of the digestive system.									
Admissions:									
Officers	151.47	175.88	183.95	185.00	100.00	37.97	128.79		34.48
Enlisted men	171.97	172.27	196.82	191.69	128.79	260.56	55.16	146.80	63.37
Total	170.70	172.48	196.25	191.19	126.15	225.73	66.75	146.80	59.74
Noneffectiveness:									
Officers	8.30	8.70	8.59	5.10	.68	.45	20.03		6.16
Enlisted men	3.02	2.98	3.23	3.61	2.42	5.89	1.64	2.66	1.29
Total	3.35	3.31	3.47	3.73	2.26	5.04	4.53	2.66	1.90
Deaths:									
Officers	1.87	3.51							4.81
Enlisted men	.24	.28			4.68	2.17			
Total	.38	.52			4.12	1.75			.77
Discharges:									
Enlisted men	2.36	1.96	2.04	4.57		4.35	3.93	2.50	1.84
Diseases of the lymphatic system.									
Admissions:									
Officers	2.68	5.03		5.00					
Enlisted men	6.16	5.54	6.60	10.28	5.05		4.24	8.75	
Total	5.94	5.51	6.31	9.88	4.59		3.58	8.75	
Noneffectiveness:									
Officers	.08	.09		.34					
Enlisted men	.56	.45	.62	.87	1.54		.18	.80	.02
Total	.53	.45	.60	.83	1.39		.15	.80	.02
Discharges:									
Enlisted men	.04	.09							
Diseases of the genito-urinary system.									
Admissions:									
Officers	22.12	21.78	36.79	40.00	25.00				
Enlisted men	17.85	17.43	16.35	20.98	25.25	25.82	11.31	26.94	8.91
Total	18.11	17.67	17.27	22.42	25.23	21.78	9.54	26.94	7.79
Noneffectiveness:									
Officers	3.41	1.97	11.43	2.10	1.71				
Enlisted men	.98	.93	1.15	.92	1.13	1.77	.42	1.13	.30
Total	1.13	.99	1.61	1.01	1.18	1.49	.35	1.13	.26
Deaths:									
Officers	2.34	1.17	7.01		17.04				
Enlisted men	.33	.37	.15		2.34		1.31		.92
Total	.49	.43	.55		4.12		1.05		.77
Discharges:									
Enlisted men	1.34	1.03	1.60	1.91	2.34			3.12	
Diseases of the locomotor system.									
Admissions:									
Officers	4.02	6.70	3.34				7.58		
Enlisted men	4.31	4.23	5.19	6.17	2.53		5.66	2.02	
Total	4.29	4.37	5.11	5.70	2.29		5.96	2.02	

disease to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	.....	.....	4.20	.....	5.62	20.30	4.63	18.18	.....
3.70	9.77	7.09	7.10	6.52	15.26	17.69	13.75	15.15	.....
3.70	9.67	6.86	6.94	5.91	14.38	18.13	9.86	17.04	.....
.....	.....	.....	.01	1.42	.97	5.60	3.89	1.74	.....
.26	.75	.47	.62	.37	1.23	1.55	1.21	.12	.....
.26	.74	.46	.59	.47	1.21	2.24	2.36	1.14	.....
.....	.....	.....	.....	.....	.....	.....	9.71	.....	.....
.....	.....	.13	.....	.86	2.62	1.93	.....	.....	.....
.....	.....	.13	.....	.76	2.31	1.52	4.82	.....	.....
.....	2.81	1.71	1.53	1.73	4.19	2.89	6.37	13.89	.....
.....	152.54	168.07	176.47	153.15	129.21	126.90	162.04	100.00	205.88
159.26	228.86	176.52	140.53	136.87	129.45	96.77	147.77	166.67	.....
159.26	228.11	176.23	142.44	138.40	129.42	101.90	153.85	124.99	132.06
.....	8.13	3.58	8.76	9.22	12.34	12.45	6.54	2.62	16.76
2.57	3.60	2.82	2.79	3.17	2.74	1.80	5.12	2.94	.....
2.57	3.64	2.85	3.11	3.73	3.62	3.61	5.73	2.74	10.75
.....	.....	.....	.....	.....	.....	3.53	6.47	.....	20.83
.....	.16	.26	.....	.43	.52	.....	3.18	.....	.....
.....	.15	.26	.....	.38	.46	.76	4.82	.....	14.70
.....	2.18	1.97	2.63	2.59	3.14	.96	9.55	13.89	.....
.....	.....	.....	16.81	.....	.....	.....	.....	.....	.....
3.70	8.08	7.23	5.44	5.12	2.83	.....	3.44	.....	.....
3.70	8.00	6.99	6.05	4.64	2.57	.....	1.97	.....	.....
.....	.....	.....	.52	.....	.....	.....	.....	.....	.....
.19	.87	.60	.42	.40	.40	.....	.07	.....	.....
.19	.86	.58	.42	.36	.37	.....	.04	.....	.....
.....	.16	.....	.....	.....	.....	.....	.....	.....	.....
.....	16.95	25.21	25.21	18.02	11.24	30.46	18.50	27.27	29.41
7.41	29.81	16.31	13.01	8.38	11.30	14.57	10.31	30.30	.....
7.41	29.68	16.60	13.66	9.28	11.30	17.27	13.81	28.41	18.87
.....	.14	5.86	4.81	5.50	1.22	1.49	2.61	2.09	.24
.19	1.41	1.06	.66	.69	.56	.87	.45	1.91	.....
.19	1.40	1.21	.88	1.14	.62	.97	1.37	2.02	.16
.....	.....	.....	2.92	.....	.....	3.53	9.71	.....	.....
.....	.16	.13	.....	1.29	.52	.96	.....	13.89	.....
.....	.15	.13	.20	1.14	.46	1.52	4.82	4.37	.....
.....	3.12	1.05	.66	.43	.....	.96	.....	.....	.....
.....	.....	.....	21.01	.....	.....	.....	4.63	.....	.....
3.70	4.04	4.25	5.44	3.26	5.65	1.04	6.87	.....	.....
3.70	4.00	4.80	5.15	2.95	5.14	.86	5.92	.....	.....

TABLE XVIII.—*Showing the relation of certain classes of*

Orders of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
***Diseases of the locomotor system*—Continued.**									
Noneffectiveness:									
Officers	.48	1.11	.14	.....	.....	.....	.12	.....	.....
Enlisted men	.41	.41	.48	.45	1.74	.....	.44	.11	.....
Total	.42	.45	.46	.44	1.58	.....	.39	.12	.....
Discharges:									
Enlisted men	.77	.75	1.02	1.14	.....	.....	.....	.62	.....
Diseases of the integumentary system.									
Admissions:									
Officers	28.82	33.50	26.76	60.00	.....	12.66	15.15	.....	.....
Enlisted men	79.32	66.99	106.59	99.55	65.66	112.68	18.39	72.73	23.76
Total	76.22	65.09	103.01	96.54	59.64	97.03	17.88	72.73	20.78
Noneffectiveness:									
Officers	1.28	2.34	.91	.99	.....	.17	.27	.....	.....
Enlisted men	2.11	1.89	2.70	2.61	1.20	3.08	.71	1.94	.70
Total	2.07	1.91	2.62	2.49	1.09	2.63	.64	1.94	.61
Deaths:									
Officers	.47	.....	2.34	.....	.....	.....	.....	.....	.....
Total	.04	.....	.14	.....	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	.20	.28	.29	.....	.....	.....	.....	.....	.....
Unclassified.									
Admissions:									
Officers	10.05	10.05	10.03	20.00	.....	.....	15.15	.....	.....
Enlisted men	17.59	17.53	19.34	17.28	7.58	9.39	12.73	27.61	3.96
Total	17.12	17.10	18.92	17.48	6.88	7.92	13.11	27.61	3.46
Noneffectiveness:									
Officers	.36	.51	.59	.18	.....	.....	.15	.....	.....
Enlisted men	.41	.41	.35	.42	.16	.24	.14	1.15	.08
Total	.41	.42	.36	.40	.14	.20	.12	1.15	.07
Deaths:									
Enlisted men	.04	.....	.15	.....	.....	.....	.....	.....	.....
Total	.04	.....	.14	.....	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	.12	.09	.....	.76	.....	.....	.....	.....	.....
Total for diseases.									
Admissions:									
Officers	545.17	1,046.90	943.14	1,135.00	400.00	126.58	606.06	.....	144.83
Enlisted men	1,159.92	1,118.38	1,304.20	1,347.59	1,164.14	1,873.24	520.51	1,166.33	343.56
Total	1,140.55	1,114.32	1,287.99	1,331.43	1,094.04	1,600.00	533.97	1,166.33	318.61
Noneffectiveness:									
Officers	51.04	61.25	57.56	54.49	10.89	3.88	54.09	.....	24.67
Enlisted men	33.80	32.83	35.20	39.60	39.17	42.51	16.62	45.12	10.05
Total	34.86	34.44	36.21	40.73	36.58	36.47	22.52	45.12	11.88
Deaths:									
Officers	12.63	16.37	14.02	.....	52.63	.....	5.26	.....	14.42
Enlisted men	4.60	4.20	4.81	4.57	9.35	2.17	5.24	2.50	9.17
Total	5.25	5.10	5.35	4.12	14.44	1.75	5.25	2.50	10.01
Discharges:									
Enlisted men	22.49	21.56	21.70	29.72	23.36	13.04	20.96	33.69	7.34
Total for injuries.									
Admissions:									
Officers	70.38	82.08	107.02	70.00	.....	12.66	45.46	.....	20.69
Enlisted men	255.08	231.71	354.35	301.11	194.44	370.89	28.29	140.74	50.50
Total	243.70	223.22	343.24	283.55	176.60	314.85	30.99	140.74	46.75
Noneffectiveness:									
Officers	4.35	6.47	3.24	5.84	.....	.73	2.78	.....	.47
Enlisted men	8.08	7.21	11.64	9.30	4.69	10.69	1.11	4.48	1.75
Total	7.85	7.17	11.27	9.04	4.26	9.13	1.37	4.48	1.59
Deaths:									
Officers	1.87	3.51	2.34	.....	.....	.....	.....	.....	.....
Enlisted men	3.58	2.05	7.72	1.91	4.68	.....	2.62	1.87	.92
Total	3.45	2.16	7.40	1.72	4.12	.....	2.10	1.87	.77
Discharges:									
Enlisted men	2.53	2.61	3.06	3.05	2.34	.....	.....	3.50	.....

disease to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	.....	2.95	.....	.....	.....	.....	.08	.....	.....
.12	.19	.53	.67	.36	.33	.23	.17	.....	.....
.12	.20	.61	.63	.33	.30	.18	.13	.....	.....
.....	.62	1.18	.88	.....	.52	.96	.....	.....	.....
.....	67.80	33.61	42.02	27.03	22.47	30.46	18.50	.....	29.41
122.22	111.48	84.08	56.78	58.19	54.27	42.66	44.67	15.15	.....
122.22	111.05	82.43	55.99	55.27	51.36	40.59	33.53	5.68	18.87
.....	.60	.85	1.72	.42	4.11	1.95	.18	.....	.64
2.96	2.61	2.04	1.80	2.57	1.43	1.51	1.02	.37	.....
2.96	2.59	2.00	1.80	2.37	1.68	1.58	.66	.14	.41
.....	.....	.....	2.92	.....	.....	.....	.....	.....	.....
.....	.....	.....	.20	.....	.....	.....	.....	.....	.....
.....	.....	.13	.22	.86	.....	.96	.....	.....	.....
.....	16.95	12.61	8.40	9.01	16.86	15.23	4.63	.....	.....
3.70	25.60	17.72	13.72	13.04	11.87	10.41	13.75	.....	52.63
3.70	25.51	17.56	13.44	12.66	12.33	11.23	9.86	.....	18.87
.....	.23	.68	.07	.17	1.54	.13	.04	.....	.....
.05	.63	.35	.27	.29	.53	.19	.46	.....	6.79
.05	.63	.36	.26	.28	.63	.18	.28	.....	2.43
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.16	.13	.....	.....	.....	.....	.....	.....	50.00
.....	1,101.69	886.56	882.35	770.27	825.84	918.78	833.33	681.82	617.65
925.92	1,482.15	1,150.43	920.51	1,035.85	1,009.02	875.13	1,240.55	1,318.18	1,263.16
925.92	1,478.40	1,141.82	918.48	1,010.97	992.30	882.56	1,067.06	920.45	849.06
.....	50.38	40.86	52.64	40.53	60.61	58.76	51.77	54.89	68.33
22.01	42.44	32.49	27.89	31.39	29.13	27.97	41.43	66.42	69.79
22.01	42.52	32.76	29.21	32.25	32.01	33.21	45.83	59.21	68.85
.....	.....	2.92	5.85	6.31	15.69	14.13	38.84	6.37	20.83
.....	3.28	3.15	2.19	7.33	10.47	8.68	25.48	41.67	50.00
.....	3.28	3.14	2.45	7.21	11.09	9.85	32.10	17.47	29.41
6.87	26.52	21.03	18.19	19.84	23.04	18.32	54.14	125.00	100.00
.....	84.75	84.03	79.83	76.58	56.18	60.91	50.93	90.91	29.41
177.78	296.23	297.46	212.68	209.03	190.50	152.97	185.57	106.06	157.89
177.78	294.15	290.50	205.60	196.63	178.22	137.30	128.21	96.59	75.47
.....	14.63	4.22	2.10	3.81	3.39	4.53	3.46	9.32	.32
4.97	8.33	9.36	7.14	6.74	6.78	7.77	6.12	3.56	1.87
4.97	8.40	9.31	6.87	6.47	6.47	7.22	4.99	7.16	.88
.....	.....	8.77	.....	.....	3.92	.....	.....	.....	.....
6.87	3.74	3.81	3.51	3.45	3.14	1.93	3.18	.....	.....
6.87	3.70	4.02	3.26	3.04	3.23	1.52	1.61	.....	.....
3.44	2.34	3.15	1.97	2.59	2.62	1.93	.....	.....	.....

TABLE XVIII.—*Showing the relation of certain classes of*

Names of disease, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Total diseases and injuries.									
Admissions:									
Officers	915.55	1,128.98	1,050.17	1,205.00	400.00	139.24	651.52	.....	165.52
Enlisted men	1,415.00	1,350.09	1,658.54	1,648.70	1,358.59	2,244.13	548.80	1,307.07	394.06
Total	1,384.25	1,337.55	1,631.23	1,614.98	1,270.64	1,914.85	564.96	1,307.07	365.36
Noneffectiveness:									
Officers	55.38	67.72	60.80	60.33	10.89	4.61	56.87	.....	25.15
Enlisted men	41.88	40.04	46.84	48.91	43.86	53.20	17.73	49.60	11.80
Total	42.71	41.61	47.48	49.77	40.84	45.60	23.89	49.60	13.47
Deaths:									
Officers	14.50	19.88	16.36	.....	52.63	.....	5.26	.....	14.42
Enlisted men	8.18	6.25	12.53	6.48	14.02	2.17	7.86	4.37	10.09
Total	8.69	7.26	12.75	5.84	18.56	1.75	7.35	4.37	10.78
Discharges:									
Enlisted men	25.01	24.17	24.76	32.77	25.70	13.04	20.96	36.18	7.34

disease to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	1,186.44	970.59	962.18	846.85	882.02	979.70	884.26	772.73	647.06
1,103.70	1,778.38	1,447.89	1,133.19	1,244.88	1,199.55	1,028.10	1,426.12	1,424.24	1,421.05
1,103.70	1,772.55	1,432.32	1,124.08	1,207.60	1,170.52	1,019.86	1,195.27	1,017.04	924.53
.....	65.01	45.08	54.74	44.34	64.00	63.29	55.23	64.21	68.65
26.98	50.77	41.84	35.03	38.13	35.91	35.74	47.55	69.99	71.66
26.98	50.92	42.07	36.08	38.72	38.48	40.43	50.82	66.37	69.73
.....	.....	11.70	5.85	6.31	19.61	14.13	38.84	6.37	20.83
6.87	7.02	6.96	5.70	10.79	13.61	10.61	28.66	41.67	50.00
6.87	6.93	7.17	5.71	10.25	14.32	11.37	33.71	17.47	29.41
10.31	28.86	24.17	20.16	22.43	25.65	20.25	54.14	125.00	100.00

TABLE XIX.—*Showing the relation of certain classes*

Orders of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Specific febrile and acute infectious diseases.						
Admissions:						
Officers	174.26	171.26	133.33	266.67	250.00	285.71
Enlisted men	180.72	195.14	175.86	157.62	161.42	131.76
Total	180.32	192.89	175.45	158.16	162.18	134.26
Noneffectiveness:						
Officers	6.36	6.41	2.37	4.75	4.45	7.04
Enlisted men	3.61	3.77	3.74	3.05	3.78	3.80
Total	3.78	4.02	3.72	3.06	3.79	3.85
Deaths:						
Officers	.47	.49	.....	.....	.....	.....
Enlisted men	.86	.75	1.78	.94	.....	.....
Total	.82	.72	1.76	.94	.....	.....
Malarial diseases.						
Admissions:						
Officers	55.63	49.54	133.33	133.33	.....	.....
Enlisted men	95.37	96.61	98.84	99.66	95.34	103.53
Total	92.93	92.16	99.17	99.83	94.52	101.85
Noneffectiveness:						
Officers	2.79	2.84	1.28	2.92	.....	.....
Enlisted men	2.79	2.80	2.73	2.71	3.61	3.83
Total	2.79	2.80	2.71	2.71	3.58	3.77
Deaths:						
Officers	.47	.49	.....	.....	.....	.....
Enlisted men	.12	.21	.....	.....	.....	.....
Total	.15	.24	.....	.....	.....	.....
Discharges:						
Enlisted men	.24	.14	.....	.94	.....	.....
Typho-malarial fever.						
Admissions:						
Enlisted men	.18	.22	.32	.....	.....	.....
Total	.17	.20	.32	.....	.....	.....
Noneffectiveness:						
Enlisted men	.05	.06	.07	.....	.....	.....
Total	.04	.06	.07	.....	.....	.....
Deaths:						
Enlisted men	.04	.07	.....	.....	.....	.....
Total	.04	.06	.....	.....	.....	.....
Diarrhœal diseases.						
Admissions:						
Officers	65.68	63.69	66.67	66.67	125.00	142.86
Enlisted men	128.13	131.08	147.95	106.78	137.59	157.65
Total	124.29	124.71	147.17	106.57	137.48	157.40
Noneffectiveness:						
Officers	1.78	1.77	.73	.55	2.40	1.96
Enlisted men	1.63	1.49	1.92	1.96	2.10	2.69
Total	1.64	1.52	1.90	1.95	2.10	2.68
Discharges:						
Enlisted men	.33	.41	.30	.....	.....	.....
Septic diseases.						
Admissions:						
Enlisted men	.09	.07	.32	.....	.....	.....
Total	.08	.07	.32	.....	.....	.....
Noneffectiveness:						
Enlisted men	.001	.001	.002	.....	.....	.....
Total	.001	.001	.002	.....	.....	.....
Venereal diseases.						
Admissions:						
Officers	8.04	7.79	.....	66.67	.....	.....
Enlisted men	79.63	93.80	58.09	54.58	61.76	87.06
Total	75.22	85.66	57.53	54.63	61.22	85.65
Noneffectiveness:						
Officers	.33	.34	.....	.73	.....	.....
Enlisted	5.16	6.23	3.37	3.52	3.56	4.66
Total	4.86	5.67	3.34	3.51	3.53	4.59
Discharges:						
Enlisted men	2.89	3.63	1.78	1.57	1.00	4.36

of disease to nativity and length of service.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
1,500.00	166.67	.....	1,000.00	.....	.....	200.00	31.25	177.40
141.28	107.30	82.47	171.05	183.49	148.93	143.59	185.60	179.75
147.25	108.78	81.63	174.67	183.49	144.33	144.30	184.31	179.57
73.97	4.57	.....	19.18	.....	.....	1.10	5.65	6.38
3.37	2.75	1.75	3.34	2.81	3.67	2.77	3.95	3.54
3.68	2.80	1.73	3.41	2.81	3.56	2.75	3.97	3.74
.....	.....	.....	.....	.....	.....	.....	.....	.48
.....	.....	.....	.....	4.24	.....	.....	1.72	.68
.....	.....	.....	.....	4.24	.....	.....	1.69	.67
.....	.....	.....	.....	.....	.....	1,400.00	.....	56.85
59.61	81.55	108.25	57.02	64.22	31.91	82.05	120.29	90.43
59.34	79.50	107.14	56.77	64.22	30.93	98.73	119.27	88.03
.....	.....	.....	.....	.....	.....	13.70	.....	2.85
1.60	1.93	4.12	1.44	2.24	.38	3.43	3.99	2.55
1.60	1.88	4.08	1.44	2.24	.37	3.56	3.96	2.57
.....	.....	.....	.....	.....	.....	.....	.....	.48
.....	.....	.....	.....	.....	.....	.....	.....	.15
.....	.....	.....	.....	.....	.....	.....	.....	.18
.....	.....	.....	4.07	.....	.....	.....	.49	.20
.....	.....	.....	.....	.....	.....	.....	.....	.21
.....	.....	.....	.....	.....	.....	.....	.....	.20
.....	.....	.....	.....	.....	.....	.....	.....	.05
.....	.....	.....	.....	.....	.....	.....	.....	.05
.....	.....	.....	.....	.....	.....	.....	.....	.05
.....	.....	.....	.....	.....	.....	.....	.....	.04
.....	333.33	.....	.....	.....	333.33	.....	.....	67.12
105.97	111.59	77.32	100.88	114.68	53.19	76.92	150.82	123.63
105.49	117.15	76.53	100.44	114.68	61.86	75.95	149.55	119.59
.....	13.24	.....	.....	.....	5.48	.....	.....	1.82
1.44	1.48	.73	1.06	1.51	.76	.59	1.91	1.57
1.43	1.78	.73	1.05	1.51	.90	.58	1.89	1.59
2.04	.....	.....	.....	.....	.....	.....	.49	.29
.....	.....	.....	.....	.....	.....	.....	.....	.11
.....	.....	.....	.....	.....	.....	.....	.....	.10
.....	.....	.....	.....	.....	.....	.....	.....	.001
.....	.....	.....	.....	.....	.....	.....	.....	.001
.....	.....	.....	.....	.....	.....	.....	.....	9.22
57.40	68.67	25.77	57.02	77.98	127.66	46.15	162.24	63.24
57.15	66.95	25.51	56.77	77.98	123.71	45.57	160.86	59.30
.....	.....	.....	.....	.....	.....	.....	.....	.34
3.97	3.61	1.58	4.39	5.35	5.10	3.47	10.33	4.13
3.96	3.52	1.57	4.37	5.35	4.94	3.43	10.25	3.86
4.09	.....	.....	4.07	.....	.....	2.38	8.86	1.71

TABLE XIX.—*Showing the relation of certain classes*

Orders of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Zoögenous diseases.						
Admissions:						
Enlisted men	35.88	42.31	31.45	12.54	23.84	47.06
Total	33.67	38.31	31.15	12.48	23.63	46.30
Noneffectiveness:						
Enlisted men	1.19	1.57	.83	.26	.39	1.33
Total	1.12	1.42	.82	.25	.39	1.31
Deaths:						
Enlisted men	.04	.....	.30	.....	.....	.....
Total	.04	.....	.29	.....	.....	.....
Dietic diseases.						
Admissions:						
Officers	5.36	5.66	.....	.....	.....	.....
Enlisted men	43.88	37.95	89.54	27.46	62.84	30.59
Total	41.51	34.91	88.68	27.32	62.30	30.10
Noneffectiveness:						
Officers	.08	.08	.....	.....	.....	.....
Enlisted men	.53	.46	1.07	.34	.82	.34
Total	.50	.43	1.06	.34	.81	.34
Deaths:						
Enlisted men	.20	.21	.59	.....	.....	.....
Total	.19	.18	.59	.....	.....	.....
Discharges:						
Enlisted men	.49	.69	.30	.....	1.00	.....
Constitutional diseases.						
Admissions:						
Officers	90.48	87.05	300.00	.....	125.00	.....
Enlisted men	87.77	88.25	93.39	89.83	69.34	87.06
Total	87.94	88.14	95.36	89.37	69.81	85.65
Noneffectiveness:						
Officers	6.83	6.23	34.43	.....	39.73	.....
Enlisted men	4.33	4.37	4.61	4.57	2.47	3.97
Total	4.42	4.55	4.90	4.54	2.79	3.91
Deaths:						
Enlisted men	.37	.21	.....	.63	1.00	.....
Total	.34	.18	.....	.62	.99	.....
Discharges:						
Enlisted men	2.81	3.08	2.08	3.45	.....	4.36
Developmental diseases.						
Admissions:						
Officers	.67	.71	.....	.....	.....	.....
Enlisted men	.48	.30	.96	.68	2.17	.....
Total	.50	.33	.95	.67	2.15	.....
Noneffectiveness:						
Officers	.42	.44	.....	.....	.....	.....
Enlisted men	.05	.02	.06	.25	.09	.....
Total	.08	.06	.06	.25	.09	.....
Discharges:						
Enlisted men	.77	.41	1.49	1.26	2.01	.....
Parasitic diseases.						
Admissions:						
Enlisted men	3.65	3.85	1.93	5.42	2.17	.....
Total	3.42	3.48	1.91	5.40	2.15	.....
Noneffectiveness:						
Enlisted men	.09	.10	.10	.12	.04	.....
Total	.09	.09	.10	.12	.04	.....
Diseases of the nervous system.						
Admissions:						
Officers	75.07	72.89	100.00	200.00	.....	.....
Enlisted men	58.61	61.99	56.80	53.90	47.67	37.65
Total	59.63	63.02	57.22	54.64	47.26	37.04
Noneffectiveness:						
Officers	8.16	8.08	22.74	.73	.....	5.09
Enlisted men	1.73	1.63	1.85	1.59	1.20	1.14
Total	2.13	2.23	2.05	1.58	1.19	1.20

of disease to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
55.19	21.46	10.31	61.40	64.22	21.28	12.82	171.80	8.91
54.94	20.92	10.20	61.14	64.22	20.62	12.66	170.35	8.27
1.48	.75	.23	.83	1.61	.44	.35	6.12	.21
1.48	.73	.22	.83	1.61	.42	.35	6.07	.20
.....	.....	.....	.....	.....	.....	.....	.....	.05
.....	.....	.....	.....	.....	.....	.....	.....	.04
.....	.....	.....	.....	.....	.....	.....	.....	5.48
24.28	47.21	10.31	43.86	9.17	42.55	35.90	23.63	47.90
24.18	46.02	10.20	43.67	9.17	41.24	35.44	23.43	44.87
.....	.....	.....	.....	.....	.....	.....	.....	.09
.30	.43	.15	.43	.09	.50	.48	.38	.56
.30	.42	.15	.43	.09	.48	.48	.37	.53
.....	.....	.....	.....	.....	.....	.....	.....	.24
.....	.....	.....	.....	.....	.....	.....	.....	.22
.....	.....	.....	.....	.....	.....	.....	1.23	.34
.....	.....	500.00	.....	.....	333.33	.....	31.25	91.78
97.14	42.92	82.47	83.33	105.50	42.55	76.92	69.57	91.38
96.70	41.84	86.74	82.96	105.50	51.55	75.95	69.25	91.41
.....	.....	5.48	.....	.....	8.22	.....	.95	6.96
7.14	.72	6.44	4.80	3.61	.96	2.15	3.35	4.48
7.11	.70	6.43	4.79	3.61	1.19	2.12	3.53	4.66
2.04	.....	4.78	.....	4.24	.....	.....	.....	.44
2.04	.....	4.74	.....	4.24	.....	.....	.....	.40
.....	.....	.....	8.13	4.24	.....	2.38	3.20	2.73
.....	.....	.....	.....	.....	.....	.....	.....	.68
.....	.....	.....	.....	.....	.....	.....	.80	.42
.....	.....	.....	.....	.....	.....	.....	.79	.44
.....	.....	.....	.....	.....	.....	.....	.....	.43
.....	.....	.....	.....	.....	.....	.....	.07	.05
.....	.....	.....	.....	.....	.....	.....	.07	.08
.....	.....	.....	.....	8.47	.....	.....	.74	.78
.....	12.88	.....	8.77	4.59	.....	2.56	11.42	2.11
.....	12.55	.....	8.73	4.59	.....	2.53	11.32	1.96
.....	.21	.....	.12	.11	.....	.03	.27	.06
.....	.21	.....	.12	.11	.....	.03	.27	.06
.....	166.67	.....	.....	.....	333.33	200.00	.....	76.71
55.19	42.92	51.55	43.86	59.63	95.74	56.41	70.37	56.28
54.94	46.02	51.02	43.67	59.63	103.10	58.23	69.77	57.74
.....	.91	.....	.....	.....	.91	3.84	.....	8.33
2.84	3.48	.93	.31	3.78	3.52	4.78	2.00	1.68
2.83	3.42	.92	.31	3.78	3.45	4.77	1.99	2.15

TABLE XIX.—*Showing the relation of certain classes*

Orders of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Diseases of the nervous system—Continued.						
Deaths:						
Officers	4.68	4.94	.....	.....	.....	.....
Enlisted men	.45	.21	.89	.31	.....	4.36
Total	.79	.78	.88	.31	.....	4.26
Discharges:						
Enlisted men	2.73	1.78	4.76	3.14	4.02	6.54
Diseases of the eye.						
Admissions:						
Officers	14.74	14.86	.....	66.67	.....	.....
Enlisted men	17.02	16.50	17.97	17.29	19.50	16.47
Total	16.88	16.34	17.80	17.54	19.33	16.20
Noneffectiveness:						
Officers	2.56	2.67	.....	3.10	.....	.....
Enlisted men	.69	.62	.69	.89	.73	.60
Total	.81	.82	.69	.90	.73	.59
Discharges:						
Enlisted men	1.59	1.10	2.08	2.51	4.02	4.36
Diseases of the ear.						
Admissions:						
Officers	3.35	2.83	33.33	.....	.....	.....
Enlisted men	9.41	8.58	8.34	10.51	15.17	11.76
Total	9.04	8.04	8.58	10.45	15.04	11.57
Noneffectiveness:						
Officers	.11	.10	.55	.....	.....	.....
Enlisted men	.43	.40	.22	.43	1.24	.27
Total	.42	.37	.22	.43	1.22	.26
Discharges:						
Enlisted men	.90	.89	.30	.63	3.01	.....
Diseases of the nose.						
Admissions:						
Officers	1.34	1.42	.....	.....	.....	.....
Enlisted men	2.46	2.52	1.93	3.39	1.08	.....
Total	2.39	2.41	1.91	3.37	1.07	.....
Noneffectiveness:						
Officers	.46	.49	.....	.....	.....	.....
Enlisted men	.12	.13	.09	.14	.15	.....
Total	.14	.16	.09	.14	.15	.....
Discharges:						
Enlisted men	.16	.14	.30	.31	.....	.....
Diseases of the respiratory system.						
Admissions:						
Officers	125.34	118.90	266.67	466.67	125.00	285.71
Enlisted men	110.54	118.06	113.29	85.42	113.76	110.59
Total	111.45	118.14	114.75	87.35	113.85	113.42
Noneffectiveness:						
Officers	5.47	5.08	27.58	7.67	1.37	3.91
Enlisted men	3.20	3.26	3.62	2.78	2.42	2.91
Total	3.34	3.44	3.85	2.80	2.40	2.93
Deaths:						
Officers	.94	.99	.....	.....	.....	.....
Enlisted men	1.51	1.57	1.78	1.57	2.01	.....
Total	1.46	1.50	1.76	1.56	1.98	.....
Discharges:						
Enlisted men	2.44	2.46	2.08	2.51	1.00	6.54
Diseases of the circulatory system.						
Admissions:						
Officers	6.03	5.66	.....	.....	.....	.....
Enlisted men	8.88	7.92	11.23	11.86	8.67	11.76
Total	8.71	7.70	11.12	11.80	8.59	11.57
Noneffectiveness:						
Officers	1.76	1.79	.....	.....	.....	.....
Enlisted men	.67	.57	.96	.94	.46	.19
Total	.74	.68	.95	.95	.46	.19

of disease to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
								4.78
		4.78	4.07				.25	.49
		4.74	4.05				.24	.89
6.13			4.07	4.24		7.13	4.18	2.44
								15.07
19.87	17.17	10.31	13.16	18.35	10.64	23.08	13.28	17.76
19.78	16.74	10.20	13.10	18.35	10.30	22.78	13.16	17.57
								2.61
.44	.47	.95	.17	.61	2.51	1.71	.45	.78
.44	.46	.94	.17	.62	2.48	1.69	.44	.88
		4.78				2.38	1.23	1.66
								3.42
8.83	8.58	10.31	8.77	9.17	21.28	20.51	15.40	8.22
8.79	8.37	10.20	8.73	9.17	20.62	20.25	15.27	7.88
								.11
.11	.46	.14	.71	.09	.29	2.25	.97	.33
.11	.45	.14	.71	.09	.28	2.22	.96	.31
						7.13	1.97	.68
								1.37
6.62	4.29				10.64		2.92	2.37
6.59	4.18				10.31		2.90	2.30
								.46
.42	.14				.06		.15	.12
.42	.14				.05		.15	.14
								.20
					333.33			128.08
79.48	115.88	92.78	83.33	82.57	127.66	79.49	107.28	111.19
79.12	112.97	91.84	82.96	82.57	134.02	78.48	106.37	112.40
					2.74			5.59
5.32	4.55	1.58	2.40	2.65	2.18	1.44	3.02	3.23
5.30	4.44	1.57	2.39	2.65	2.20	1.42	3.00	3.40
								.96
				4.24			.98	1.61
				4.24			.97	1.55
6.13	7.94						2.46	2.44
						200.00		6.16
2.21	17.17	5.15	13.16	4.59	10.64	2.56	9.56	8.75
2.20	16.74	5.10	13.10	4.59	10.31	5.06	9.48	8.56
						20.27		1.80
.05	2.03	.78	2.02	.45	.29	.19	.66	.67
.05	1.97	.77	2.01	.45	.28	.44	.66	.76

TABLE XIX.—*Showing the relation of certain classes*

Orders of diseases.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Deseases of the circulatory system—Continued.						
Deaths:						
Officers	1.40	1.48				
Enlisted men	.41	.48	.89			
Total	.49	.60	.88			
Discharges:						
Enlisted men	2.28	1.99	2.97	3.14	3.01	
Diseases of the digestive system.						
Admissions:						
Officers	151.47	153.57	100.00	132.33		142.86
Enlisted men	171.97	182.79	163.03	158.31	165.76	124.71
Total	170.70	180.03	162.42	158.19	164.32	125.00
Noneffectiveness:						
Officers	8.30	8.49	5.66	3.84		21.13
Enlisted men	3.02	3.07	3.23	3.02	3.02	2.02
Total	3.35	3.58	3.25	3.03	3.00	2.33
Deaths:						
Officers	1.87	1.98				
Enlisted men	.24	.14	.89	.31		
Total	.38	.36	.88	.31		
Discharges:						
Enlisted men	2.36	1.78	2.97	2.83	3.01	4.36
Diseases of the lymphatic system.						
Admissions:						
Officers	2.68	2.83				
Enlisted men	6.16	6.66	5.13	6.10	6.50	7.06
Total	5.94	6.30	5.09	6.07	6.46	6.94
Noneffectiveness:						
Officers	.08	.09				
Enlisted men	.56	.66	.60	.39	.25	.41
Total	.53	.61	.59	.37	.24	.41
Discharges:						
Enlisted men	.04	.07				
Diseases of the genito-urinary system.						
Admissions:						
Officers	22.12	21.94	33.33	66.67		
Enlisted men	17.85	19.46	11.87	19.66	16.25	14.12
Total	18.11	19.69	12.08	19.90	16.11	13.89
Noneffectiveness:						
Officers	3.41	3.44	.91	12.78		
Enlisted men	.98	.97	.61	1.03	.90	3.83
Total	1.13	1.21	.61	1.09	.89	3.77
Deaths:						
Officers	2.34	1.98				100.00
Enlisted men	.33	.41		.31		
Total	.49	.60		.31		2.13
Discharges:						
Enlisted men	1.34	1.44	.89	1.57	1.00	2.18
Diseases of the locomotor system.						
Admissions:						
Officers	4.02	4.25				
Enlisted men	4.31	4.07	1.93	6.44	6.50	2.35
Total	4.29	4.09	1.91	6.41	6.46	2.31
Noneffectiveness:						
Officers	.48	.51				
Enlisted men	.41	.34	.11	.86	.49	.08
Total	.42	.36	.11	.85	.48	.08
Discharges:						
Enlisted men	.77	.55	1.18	1.26	3.01	
Diseases of the integumentary system.						
Admissionss:						
Officers	28.82	30.43				
Enlisted men	79.32	86.92	65.15	74.58	65.01	80.00
Total	76.22	81.58	64.53	74.20	64.45	78.70

of disease to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
								1.43
							.49	.39
							.48	.49
		4.78	8.13	4.24			2.71	2.20
					666.67	200.00	31.25	154.11
145.71	111.59	154.64	162.28	128.44	191.49	138.46	215.88	163.26
145.05	108.78	153.05	161.57	128.44	206.20	139.23	214.33	162.60
					3.65	.55	.51	8.47
2.10	1.03	4.35	2.29	1.75	3.76	3.54	3.59	2.91
2.10	1.01	4.31	2.27	1.75	3.76	3.52	3.57	3.31
								1.91
							.25	.25
							.24	.39
2.05		9.57		4.24	9.91	7.13	3.44	2.15
								2.74
2.21	8.58		4.39		10.64	5.13	7.70	5.85
2.20	8.37		4.37		10.31	5.06	7.63	5.63
								.08
.02	.35	.31	.06	.74	.99	.18	.75	.52
.02	.34	.31	.06	.74	.96	.17	.75	.49
							.25	
								22.68
15.45	12.88	20.62	13.16	22.94	10.64	10.26	31.33	15.11
15.38	12.55	20.41	13.10	22.94	10.31	10.13	31.07	15.71
								3.48
1.20	1.00	1.29	.41	1.50	.47	.55	1.90	.98
1.20	.97	1.27	.41	1.50	.45	.55	1.88	.90
								2.39
				4.24				.39
				4.24				.58
				8.47			3.94	.83
								4.20
6.62	12.88	5.15	13.16			2.56	5.58	4.06
6.59	12.55	5.10	13.10			2.53	5.53	4.06
								.48
2.11	.96	.14	.22			.46	.54	.38
2.09	.94	.14	.22			.46	.54	.40
							.74	.78
								29.45
55.19	51.50	77.32	48.25	64.22	63.83	74.36	114.71	72.30
54.94	50.21	76.53	48.03	64.22	61.86	73.42	113.74	69.24

TABLE XIX.—*Showing the relation of certain classes*

Orders of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Diseases of the integumentary system—Continued.						
Noneffectiveness:						
Officers	1.28	1.30	2.47			
Enlisted men	2.11	2.17	2.28	2.17	1.34	1.66
Total	2.07	2.09	2.28	2.16	1.32	1.64
Deaths:						
Officers	.47	.49				
Total	.04	.06				
Discharges:						
Enlisted men	.20	.14	.30		1.00	
Unclassified.						
Admissions:						
Officers	10.05	10.62				
Enlisted men	17.59	18.72	15.40	15.59	10.83	25.88
Total	17.12	17.95	15.26	15.51	10.74	25.46
Noneffectiveness:						
Officers	.36	.38				
Enlisted men	.41	.41	.36	.49	.15	.43
Total	.41	.41	.36	.49	.15	.42
Deaths:						
Enlisted men	.04	.07				
Total	.04	.06				
Discharges:						
Enlisted men	.12	.07	.30	.31		
Total for diseases.						
Admissions:						
Officers	545.17	825.90	1,166.67	1,466.67	625.00	857.14
Enlisted men	1,159.92	1,223.78	1,170.73	1,017.63	1,093.17	1,087.06
Total	1,140.55	1,186.12	1,170.69	1,019.90	1,089.15	1,083.33
Noneffectiveness:						
Officers	51.04	50.54	98.72	37.08	47.95	39.14
Enlisted men	33.80	35 11	33.12	31.51	29.20	34.17
Total	34.86	36.58	33.75	31.54	29.37	34.25
Deaths:						
Officers	12.63	12.85				100.00
Enlisted men	4.60	4.32	7.14	4.08	3.01	4.36
Total	5.25	5.36	7.04	4.06	2.98	6.40
Discharges:						
Enlisted men	22.49	20.77	24.09	25.44	27.11	32.68
Total for injuries.						
Admissions:						
Officers	70.38	68.65	133.33	66.67	250.00	
Enlisted men	255.08	264.83	278.88	217.63	237.27	268.24
Total	243.70	246.26	277.50	216.86	237.38	263.89
Noneffectiveness:						
Officers	4.35	3.97	14.43	16.44	21.92	
Enlisted men	8.08	7.96	9.92	7.49	7.22	6.42
Total	7.85	7.59	9.98	7.55	7.34	6.31
Deaths:						
Officers	1.87	1.48				
Enlisted men	3.58	3.43	3.27	4.08	5.02	2.18
Total	3.45	3.19	3.23	4.05	4.96	2.13
Discharges:						
Enlisted men	2.53	2.60	2.68	3.14	2.01	
Total diseases and injuries.						
Admissions:						
Officers	915.55	894.55	1,300.00	1,533.34	875.00	857.14
Enlisted men	1,415.00	1,488.61	1,449.61	1,235.25	1,330.44	1,355.29
Total	1,384.25	1,432.38	1,448.19	1,236.76	1,326.53	1,347.22
Noneffectiveness:						
Officers	55.38	54.50	113.15	53.52	69.87	39.14
Enlisted men	41.88	43.07	43.05	39.00	36.42	40.60
Total	42.71	44.17	43.73	39.09	36.71	40.56
Deaths:						
Officers	14.50	14.33				100.00
Enlisted men	8.18	7.74	10.41	8.17	8.03	6.54
Total	8.69	8.55	10.27	8.10	7.94	8.53
Discharges:						
Enlisted men	25.01	23.37	26.76	28.58	29.12	32.68

of disease to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All others.	Under 1.	1 and over.
								1.31
1.45	1.14	2.20	.82	1.22	1.05	3.66	2.90	1.96
1.44	1.11	2.18	.81	1.22	1.02	3.61	2.88	1.91
								.48
								.04
				4.24			.25	.20
								10.27
17.66	12.88	15.46	13.16	9.17	21.28	28.21	29.74	15.18
17.58	12.55	15.30	13.10	9.17	20.62	27.85	29.49	14.83
								.37
.48	.09	.13	.08	.06	3.58	.79	.77	.34
.48	.09	.13	.08	.06	3.47	.77	.77	.34
								.05
								.04
							.25	.10
1,500.00	666.67	500.00	1,000.00		2,000.00	2,200.00	93.75	861.64
955.85	909.87	840.21	1,000.00	1,022.94	1,042.55	917.95	1,519.91	1,088.48
958.24	903.77	836.73	1,000.00	1,022.94	1,072.17	934.17	1,507.90	1,072.28
73.97	18.72	5.48	19.18		21.00	39.45	7.11	51.99
35.86	27.61	27.81	25.90	30.19	30.51	32.80	48.30	30.92
36.03	27.37	27.58	25.86	30.19	30.22	32.93	47.96	32.42
								12.91
2.05		9.57	4.07	16.95			3.69	4.78
2.04		9.48	4.05	16.95			3.65	5.54
20.45	7.94	19.14	28.46	38.14	9.90	28.50	36.41	19.72
		500.00						71.92
220.75	266.09	201.03	197.37	146.79	244.68	194.87	297.13	246.73
219.78	259.41	204.08	196.50	146.79	237.11	192.40	294.63	234.24
		17.81						4.45
9.69	11.93	6.33	4.84	3.28	4.55	7.91	8.92	7.92
9.65	11.64	6.44	4.82	3.28	4.41	7.82	8.85	7.67
500.00								*1.91
6.14	3.97		8.13			4.75	3.94	3.52
8.15	3.83		8.10			4.67	3.89	3.37
4.09						2.38	2.95	2.44
1,500.00	666.67	1,000.00	1,000.00		2,000.00	2,200.00	93.75	933.56
1,176.60	1,175.97	1,041.24	1,197.37	1,169.73	1,287.23	1,112.82	1,817.05	1,335.21
1,178.02	1,163.18	1,040.82	1,196.50	1,169.73	1,309.28	1,126.58	1,802.53	1,306.52
73.97	18.72	23.29	19.18		21.00	39.45	7.11	56.44
45.56	39.53	34.13	30.74	33.47	35.06	40.71	57.22	38.84
45.68	39.01	34.02	30.69	33.47	34.63	40.75	56.81	40.09
500.00								14.82
8.18	3.97	9.57	12.20	16.95		4.75	7.63	8.30
10.18	3.83	9.48	12.15	16.95		4.67	7.54	8.91
24.54	7.94	19.14	28.46	38.14	9.90	30.88	39.36	22.17

TABLE XX.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Arms of service							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Cerebro-spinal fever.									
Admissions:									
Enlisted men	.04	.10							
Total	.04	.10							
Noneffectiveness:									
Enlisted men	.01	.02							
Total	.01	.02							
Dengue.									
Admissions:									
Officers	.67					12.66			
Enlisted men	.26	.40	.31						
Total	.29	.38	.30			1.98			
Noneffectiveness:									
Officers	.01					.21			
Enlisted men	.003	.005	.003						
Total	.003	.004	.002			.03			
Diphtheria.									
Admissions:									
Enlisted men	.22	.20		.41	2.53		1.41		
Total	.21	.19		.38	2.29		1.19		
Noneffectiveness:									
Enlisted men	.006	.005		.02	.04		.03		
Total	.01	.005		.02	.04		.03		
Deaths:									
Enlisted men	.04				2.34				
Total	.04				2.06				
Enteric fever.									
Admissions:									
Officers	4.69	3.35	10.03	5.00		12.66			
Enlisted men	5.28	5.94	7.23	2.88	10.10		1.41	.67	1.98
Total	5.24	5.80	7.36	3.04	9.17	1.98	1.19	.67	1.73
Noneffectiveness:									
Officers	1.07	.61	3.08	.97		1.39			
Enlisted men	.74	.80	1.14	.33	.92		.13	.18	.18
Total	.76	.79	1.23	.38	.84	.22	.11	.18	.17
Deaths:									
Enlisted men:	.53	.47	.73	.38					1.83
Total	.49	.43	.69	.34					1.54
Influenza.									
Admissions:									
Officers	164.87	199.32	190.63	230.00	75.00		113.63		41.38
Enlisted men	168.14	159.38	227.94	162.90	229.79	223.00	127.29	63.97	24.75
Total	167.93	161.63	226.29	168.00	215.60	188.10	125.14	63.97	26.84
Noneffectiveness:									
Officers	4.85	4.58	6.31	9.40	1.64	.42	3.36		1.30
Enlisted men	2.55	2.44	3.02	2.65	6.17	4.26	2.03	1.37	.37
Total	2.69	2.56	3.16	3.16	5.76	3.66	2.24	1.37	.51
Deaths.									
Officers	.47		2.34						
Enlisted men	.20	.09	.15	1.14					
Total	.22	.09	.27	1.03					
Measles.									
Admissions:									
Officers	1.34		6.69						
Enlisted men	2.55	2.22	.47	3.70			1.41	15.49	
Total	2.48	2.09	.75	3.42			1.19	15.49	
Noneffectiveness:									
Officers	.30		1.50						
Enlisted men	.11	.11	.01	.13			.08	.70	
Total	.13	.10	.08	.12			.07	.70	
Mumps.									
Admissions:									
Enlisted men	.92	.81	1.26	2.06					
Total	.87	.76	1.20	1.90					

diseases to arm of service and age of individual.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
	.17								
	.17								
	.04								
	.04								
			4.20						
	.17	.28	.47	.47					
	.17	.27	.67	.42					
			.07						
	.001	.003	.01	.001					
	.001	.003	.01	.001					
	.34	.14	.24		.57				
	.33	.14	22		.51				
	.01	.01	.01		.01				
	.01	.01	.01		.01				
					.52				
					.46				
	33.90	8.40	8.40			5.08			
11.11	10.61	4.40	3.08	3.26	1.13			15.15	
11.11	10.84	4.53	3.36	2.95	1.03	.86		5.68	
	5.25	1.54	3.03			.49			
1.45	1.45	.58	.41	.78	.17			.42	
1.45	1.49	.62	.55	.71	.15	.17		.16	
	.78	.66	.44					13.89	
	.77	.63	.41					4.37	
	322.02	214.28	172.25	198.19	157.30	177.65	97.23	45.45	58.82
144.44	202.08	172.96	142.42	156.89	155.45	110.31	116.84	60.61	368.41
144.44	203.26	174.31	144.00	160.76	155.62	121.75	108.48	51.14	169.80
	10.31	6.85	4.10	5.80	5.28	3.87	2.60	3.46	2.66
2.21	2.85	2.54	1.96	2.50	2.74	2.58	3.45	5.69	12.83
2.21	2.92	2.68	2.08	2.81	2.97	2.80	3.09	4.30	6.31
					3.92				
	.16	.13	.22		.52	.96			
	.15	.13	.20		.93	.76			
		8.40							
11.11	6.23	1.56	1.18	.93					
11.11	6.17	1.78	1.12	.84					
		1.89							
.58	.25	.07	.08	.05					
.58	.25	.13	.08	.05					
3.70	1.68	.71	.71	.47	.57				
3.79	1.67	.69	.67	.42	.51				

TABLE XX.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Mumps—Continued.									
Noneffectiveness:									
Enlisted men	.03	.02	.03	.11					
Total	.03	.02	.03	.10					
Quinsy.									
Admissions:									
Enlisted men	.26	.30	.47						
Total	.25	.29	.45						
Noneffectiveness:									
Enlisted men	.006	.01	.01						
Total	.01	.01	.01						
Scarlet fever.									
Admissions:									
Enlisted men	.26	.10	.47	.41					.99
Total	.25	.10	.45	.38					.87
Noneffectiveness:									
Enlisted men	.02	.01	.03	.05					.02
Total	.02	.01	.03	.04					.02
Small-pox.									
Admissions:									
Enlisted men	.04	.10							
Total	.04	.10							
Noneffectiveness:									
Enlisted men	.004	.01							
Total	.004	.01							
Whooping cough.									
Admissions:									
Enlisted men	.22	.30	.16	.41					
Total	.21	.29	.15	.38					
Noneffectiveness:									
Enlisted men	.01	.01	.01	.06					
Total	.01	.01	.01	.05					
Erysipelas.									
Admissions:									
Officers	2.01	5.03							
Enlisted men	2.46	3.02	2.04	2.47	2.53		1.41	2.02	1.98
Total	2.43	3.14	1.95	2.28	2.29		1.19	2.02	1.73
Noneffectiveness:									
Officers	.11	.28							
Enlisted men	.10	.12	.12	.08	.18		.04	.09	.03
Total	.11	.13	.12	.07	.16		.04	.09	.03
Deaths:									
Enlisted men	.08	.19							
Total	.07	.17							
Other specific febrile and acute infectious diseases.									
Admissions:									
Officers	.67			5.00					
Enlisted men	.04			.41					
Total	.08			.76					
Noneffectiveness:									
Officers	.02			.15					
Enlisted men	.001			.01					
Total	.002			.01					
Bronchitis.									
Admissions:									
Officers	80.43	105.53	93.65	100.00	25.00	12.66	45.46		6.90
Enlisted men	73.65	79.08	61.62	115.18	118.69	190.14	28.29	35.69	16.83
Total	74.07	80.57	63.06	114.03	110.09	162.38	30.99	35.69	15.58

diseases to arm of service and age of individual—Continued.

Ages--years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.01	.05	.03	.01	.01	.02	.....	.....	.....	.....
.01	.05	.03	.01	.01	.02	.....	.....	.....	.....
.....	.34	.....	.47	.93	.....	.....	.....	.....	.....
.....	.33	.....	.45	.84	.....	.....	.....	.....	.....
.....	.01	.001	.02	.01	.....	.....	.....	.....	.....
.....	.01	.001	.02	.01	.....	.....	.....	.....	.....
.....	.51	.43	.....	.....	.....	.....	.....	.....	.....
.....	.50	.41	.....	.....	.....	.....	.....	.....	.....
.....	.03	.04	.....	.....	.....	.....	.....	.....	.....
.....	.03	.04	.....	.....	.....	.....	.....	.....	.....
.....	.17	.....	.....	.....	.....	.....	.....	.....	.....
.....	.17	.....	.....	.....	.....	.....	.....	.....	.....
.....	.02	.....	.....	.....	.....	.....	.....	.....	.....
.....	.02	.....	.....	.....	.....	.....	.....	.....	.....
.....	.51	.28	.....	.....	.....	.....	.....	.....	.....
.....	.50	.27	.....	.....	.....	.....	.....	.....	.....
.....	.04	.01	.....	.....	.....	.....	.....	.....	.....
.....	.04	.01	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	13.89	.....	.....
.....	2.02	2.27	1.89	2.79	5.09	4.16	3.44	.....	.....
.....	2.00	2.19	1.79	2.53	4.62	3.45	7.89	.....	.....
.....	.....	.....	.....	.....	.....	.....	.77	.....	.....
.....	.05	.11	.11	.16	.20	.17	.08	.....	.....
.....	.05	.10	.10	.14	.18	.14	.37	.....	.....
.....	.....	.13	.....	.....	.52	.....	.....	.....	.....
.....	.....	.13	.....	.....	.46	.....	.....	.....	.....
.....	16.95	.....	.....	.....	.....	.....	.....	.....	.....
.....	.17	.....	.....	.....	.....	.....	.....	.....	.....
.....	.33	.....	.....	.....	.....	.....	.....	.....	.....
.....	.51	.....	.....	.....	.....	.....	.....	.....	.....
.....	.005	.....	.....	.....	.....	.....	.....	.....	.....
.....	.01	.....	.....	.....	.....	.....	.....	.....	.....
.....	101.69	71.43	79.83	54.55	95.51	86.29	92.59	81.82	88.25
29.63	77.97	73.30	70.73	63.18	78.01	74.92	92.78	136.36	105.26
29.63	78.21	73.24	71.22	64.14	79.61	76.86	92.70	102.27	94.33

TABLE XX.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Bronchitis—Continued.									
Noneffectiveness:									
Officers	2.54	2.47	2.68	3.50	1.71	.38	4.75	.....	.49
Enlisted men	1.37	1.53	1.04	1.84	2.68	3.22	.99	1.01	.19
Total	1.44	1.59	1.11	1.97	2.60	2.78	1.59	1.01	.22
Discharges:									
Enlisted men	.24	.37	.15	.....	.....	.....	1.31	.....	.....
Pulmonary Phthisis.									
Admissions:									
Officers	1.34	1.68	.....	5.00	.....	.....	.....	.....	.....
Enlisted men	3.39	3.42	3.62	4.94	2.53	7.04	.....	2.02	.99
Total	3.26	3.33	3.45	4.94	2.29	5.94	.....	2.02	.87
Noneffectiveness:									
Officers	.94	1.63	.28	.29	.....	.....	2.11	.....	.....
Enlisted men	.82	.80	.80	1.65	.38	1.60	.....	.48	.....
Total	.83	.85	.78	1.55	.33	1.35	.33	.48	.....
Deaths:									
Officers	.94	2.34	.....	.....	.....	.....	.....	.....	.....
Enlisted men	.69	.56	.73	1.52	.....	.....	.....	.62	.92
Total	.71	.69	.69	1.37	.....	.....	.....	.62	.77
Discharges:									
Enlisted men	1.71	1.49	1.60	3.81	4.67	.....	.....	1.28	.92
Pneumonia.									
Admissions:									
Officers	2.68	1.68	6.69	5.00	.....	.....	.....	.....	.....
Enlisted men	4.04	3.73	4.40	4.11	10.10	.....	2.83	6.06	1.98
Total	3.96	3.61	4.50	4.18	9.17	.....	2.38	6.06	1.73
Noneffectiveness:									
Officers	.28	.10	.49	1.10	.....	.....	.....	.....	.....
Enlisted men	.41	.30	.43	.53	3.51	.08	.22	.47	.13
Total	.41	.29	.43	.58	3.19	.07	.19	.47	.11
Deaths:									
Enlisted men	.57	.37	.73	.....	.....	.....	1.31	1.25	1.83
Total	.52	.35	.69	.....	.....	.....	1.05	1.25	1.54
Pleuritis.									
Admissions:									
Officers	.67	1.68	.....	.....	.....	.....	.....	.....	.....
Enlisted men	2.81	2.62	4.09	2.06	10.10	2.35	1.41	.....	.99
Total	2.68	2.57	3.90	1.90	9.17	1.98	1.19	.....	.87
Noneffectiveness:									
Officers	.59	.65	.....	2.36	.....	.....	.....	.....	.....
Enlisted men	.16	.20	.14	.10	.45	.69	.03	.....	.01
Total	.19	.23	.14	.27	.42	.58	.02	.....	.01
Deaths:									
Enlisted men	.08	.....	.29	.....	.....	.....	.....	.....	.....
Total	.07	.....	.27	.....	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	.12	.09	.15	.....	.....	2.17	.....	.....	.....
Rheumatic fever.									
Admissions:									
Officers	2.68	3.35	.....	10.00	.....	.....	.....	.....	.....
Enlisted men	5.54	5.90	4.87	5.76	5.05	4.69	5.66	8.75	1.98
Total	5.36	5.70	4.65	6.08	4.58	3.96	4.77	8.75	1.73
Noneffectiveness:									
Officers	.48	.62	.....	1.74	.....	.....	.....	.....	.....
Enlisted men	.59	.65	.43	.73	.81	.67	.43	.97	.15
Total	.58	.65	.41	.80	.74	.56	.36	.97	.14
Deaths:									
Enlisted men	.005	.....	.....	.38	.....	.....	.....	.....	.....
Total	.004	.....	.....	.34	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	12	.09	.15	.38	.....	.....	.....	.....	.....

diseases to arm of service and age of individual—Continued.

Ages—years.								
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	1.21	1.15	1.00	2.12	2.14	3.94	5.16	2.44	5.32
.28	1.25	1.35	1.12	1.90	1.62	.94	2.51	8.33	1.05
.28	1.25	1.34	1.11	1.92	1.66	1.69	3.65	4.64	3.72
.....	.....	.13	.....	1.29	.52	.....	3.18	.....	.....
.....	.....	.....	4.20	.....	5.62	.....	.....	.....	.....
.....	4.55	2.84	3.31	3.72	2.83	1.04	.....	30.30	.....
.....	4.50	2.74	3.36	3.38	3.08	.86	.....	11.36	.....
.....	.....	.....	.60	.....	7.05	.....	.....	.....	.....
.....	.90	.59	.88	1.09	1.48	.09	.....	5.10	.....
.....	.89	.57	.87	.99	1.99	.08	.....	1.91	.....
.....	.....	.....	.....	.....	7.84	.....	.....	.....	.....
.....	.78	.39	.22	1.29	1.57	.96	.....	13.89	.....
.....	.77	.38	.20	1.14	2.31	.76	.....	4.37	.....
.....	2.50	1.58	1.53	1.29	1.57	.....	.....	13.89	.....
.....	.....	.....	4.20	.....	5.62	5.08	.....	9.09	.....
.....	4.55	4.11	3.78	4.66	1.70	3.12	10.31	15.15	.....
.....	4.50	3.98	3.81	4.22	2.05	3.45	5.92	11.36	.....
.....	.....	.....	24	.....	.29	.47	.....	1.99	.....
.13	.36	.46	.35	.67	.29	.27	.44	1.78	2.74
.13	.36	.44	.35	.61	.29	.30	.24	1.91	.93
.....	.62	.26	.22	1.29	.52	.96	3.18	.....	50.00
.....	.62	.25	.20	1.14	.46	.76	1.61	.....	14.71
.....	.....	.....	.....	.....	.....	5.08	.....	.....	.....
.....	1.52	2.13	4.26	4.18	3.39	6.24	3.44	.....	.....
.....	1.50	2.06	4.03	3.80	3.08	6.04	1.97	.....	.....
.....	.....	1.98	.....	.....	.....	1.97	.....	.....	.....
.....	.10	.16	.28	.12	.08	.33	.04	.....	.....
.....	.10	.22	.26	.11	.08	.61	.02	.....	.....
.....	.....	.13	.22	.....	.....	.....	.....	.....	.....
.....	.....	.13	.20	.....	.....	.....	.....	.....	.....
.....	.16	.26	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	4.20	.....	5.62	5.08	.....	9.09	.....
3.70	5.39	4.82	4.02	6.98	7.91	10.41	6.87	15.15	.....
3.70	5.33	4.66	4.03	6.33	7.70	9.49	3.94	11.36	.....
.....	.....	.....	.64	.07	1.15	.76	.....	1.77	.....
.31	.66	.53	.45	.53	.97	.70	1.08	.33	.....
.31	.65	.51	.46	.49	.96	.71	.62	1.23	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.16	.13	.....	.....	.52	.....	.....	.....	.....

TABLE XX.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Arms of service.							
		Infantry.	Cavalry.	Artillery.	Ordnance.	Engineers.	Medical Department.	Recruits.	All other.
Myalgia and muscular rheumatism.									
Admissions:									
Officers	55.63	80.40	50.17	65.00	25.00	12.66	22.73	.....	13.79
Enlisted men	53.60	55.46	64.77	51.42	75.76	105.63	31.12	16.84	14.85
Total	53.73	56.35	64.11	52.45	71.10	91.09	29.80	16.83	14.72
Noneffectiveness:									
Officers	2.04	2.79	1.53	2.12	1.03	.07	.19	.....	2.85
Enlisted men	1.83	2.03	1.89	2.13	2.79	2.31	1.86	.29	.40
Total	1.84	2.07	1.88	2.13	2.63	1.96	1.60	.29	.71
Discharges:									
Enlisted men	.98	.93	1.02	.76	4.67	2.17	.....	1.25	.....
Other rheumatism.									
Admissions:									
Officers	25.47	38.53	10.03	40.00	.....	.....	30.30	.....	.....
Enlisted men	24.01	26.76	26.10	20.98	32.83	35.21	21.22	12.12	4.95
Total	24.10	27.18	25.38	22.43	29.82	29 70	22.65	12.11	4.33
Noneffectiveness:									
Officers	2.78	3.07	4.48	3.51	.....	.....	2.08	.....	.....
Enlisted men	1.55	1.66	1.85	1.20	2.50	.75	.75	1.28	.40
Total	1.63	1.74	1.96	1.38	2.27	.63	.96	1.28	.35
Discharges:									
Enlisted men	1.14	1.21	.87	1.14	4.67	2.17	1.31	1.25	.....
Total rheumatism.									
Admissions:									
Officers	83.78	122.28	60.20	115.00	25.00	12.66	53.03	.....	13.79
Enlisted men	83.15	88.13	95.74	78.15	113.63	145.53	57.98	37.71	21.78
Total	83.19	89.23	94.14	80.96	105.50	124.75	57.22	37.69	20.78
Noneffectiveness									
Officers	5.30	6.47	6.06	7.37	1.03	.07	2.26	.....	2.85
Enlisted men	3.97	4.33	4.17	4.05	6.10	3.73	3.04	2.54	.96
Total	4.05	4.46	4.25	4.31	5.64	3.16	2.92	2.54	1.20
Deaths:									
Enlisted men	.005	.....	.....	.38	.....	.....	.....	.....	.....
Total	.004	.....	.....	.34	.....	.....	.....	.....	.....
Discharges:									
Enlisted men	2.24	2.24	2.04	2.29	9.34	4.34	1.31	2.50	.....

diseases to arm of service and age of individual—Continued.

Ages—years.									
19 and under.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.
.....	16.95	33.61	37.81	40.54	89.89	96.45	55.56	63.64	58.82
7.41	41.26	45.65	55.59	66.11	83.66	74.92	134.02	181.82	105.26
7.40	41.01	45.26	54.65	63.71	84.23	78.59	100.59	107.95	75.47
.....	.51	.45	1.01	.70	2.75	3.23	4.13	1.87	8.30
.20	1.10	1.39	3.05	2.69	2.85	3.97	4.53	6.10	4.90
.20	1.09	1.37	2.00	2.51	2.84	3.84	4.36	3.46	7.08
.....	.31	.26	.66	2.59	3.14	2.89	3.18	.....	50.00
.....	33.90	4.20	25.21	.....	44.94	55.84	32.41	27.27	.....
3.70	18.69	19.57	22.47	29.79	32.22	47.87	65.26	181.82	157.89
3.70	18.84	19.06	22.62	27.00	33.38	49.22	51.28	85.23	56.60
.....	.42	.25	3.38	.....	4.83	4.45	3.34	5.03	7.17
.02	1.18	1.55	1.34	1.69	2.53	1.77	1.85	18.01	4.47
.02	1.17	1.51	1.45	1.53	2.74	2.22	2.49	9.90	6.20
.....	.78	1.44	.66	.86	1.57	.96	6.37	13.89	.....
.....	50.85	37.82	67.23	40.54	140.44	157.35	87.96	100.00	58.82
14.81	65.34	70.04	82.09	102.88	123.79	133.20	206.18	378.79	263.16
14.81	65.18	68.99	81.30	97.05	125.32	137.31	155.82	204.54	132.07
.....	.93	.70	5.04	.78	8.74	8.44	7.47	8.67	15.47
.54	2.94	3.47	3.85	4.92	6.31	6.44	7.47	24.45	9.37
.54	2.92	3.38	3.91	4.53	6.54	6.78	7.47	14.59	13.28
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	.....	.13	.....	.....	.....	.....	.....	.....	.....
.....	1.25	1.84	1.31	3.45	5.23	3.86	9.55	13.89	50.00

TABLE XXI.—*Showing the relation of certain*

Names of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Cerebro-spinal fever.						
Admissions:						
Enlisted men	.04				1.08	
Total	.04				1.07	
Noneffectiveness:						
Enlisted men	.01				.25	
Total	.01				.25	
Dengue.						
Admissions:						
Officers	.67	.71				
Enlisted men	.26	.30	.32			
Total	.29	.33	.32			
Noneffectiveness:						
Officers	.01	.01				
Enlisted men	.003	.003	.002			
Total	.003	.004	.002			
Diphtheria.						
Admissions:						
Enlisted men	.22	.22	.32	.34		
Total	.21	.20	.32	.34		
Noneffectiveness:						
Enlisted men	.006	.01	.01	.004		
Total	.01	.01	.01	.004		
Deaths:						
Enlisted men	.04		.30			
Total	.04		.29			
Enteric fever.						
Admissions:						
Officers	4.69	4.95				
Enlisted men	5.28	4.88	5.78	5.42	5.42	9.41
Total	5.24	4.89	5.72	5.40	5.37	9.26
Noneffectiveness:						
Officers	1.07	1.13				
Enlisted men	.74	.74	.65	.75	.69	1.43
Total	.76	.77	.65	.74	.69	1.41
Deaths:						
Enlisted men	.53	.41	1.19	.63		
Total	.49	.36	1.16	.62		
Influenza.						
Admissions:						
Officers	164.87	161.36	133.33	266.67	250.00	285.70
Enlisted men	168.14	181.39	163.99	148.13	149.50	115.29
Total	167.93	179.50	163.70	148.72	150.37	118.05
Noneffectiveness:						
Officers	4.85	4.82	2.37	4.75	4.45	7.04
Enlisted men	2.55	2.64	2.85	2.20	2.49	2.25
Total	2.69	2.84	2.85	2.22	2.51	2.33
Deaths:						
Officers	.47	.49				
Enlisted men	.20	.21	.30	.31		
Total	.22	.24	.29	.31		
Measles.						
Admissions:						
Officers	1.34	1.42				
Enlisted men	2.55	3.99	.32		1.08	
Total	2.48	3.75	.32		1.07	
Noneffectiveness:						
Officers	.30	.32				
Enlisted men	.11	.18	.01		.06	
Total	.13	.19	.01		.06	
Mumps.						
Admissions:						
Enlisted men	.92	1.26	.32	.34		2.35
Total	.87	1.14	.32	.34		2.31

specified diseases to nativity and length of service.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
							.27	
							.26	
							.06	
							.06	
								.68
					10.64		.53	.21
					10.31		.53	.24
								.01
					.12		.004	.003
					.11		.004	.003
							.27	.21
							.26	.20
							.003	.01
							.003	.01
								.05
								.04
							31.25	4.11
11.04			8.77	9.17	10.64	2.56	7.97	4.74
10.99			8.73	9.17	10.31	2.53	8.16	4.70
							5.65	.97
1.45	.89		.76	.35	2.07	.33	1.06	.68
1.45	.87		.75	.35	2.01	.33	1.10	.70
				4.24			1.23	.39
				4.24			1.21	.35
500.00	166.67		1,000.00			200.00		168.49
125.82	103.01	77.32	162.28	169.72	127.65	141.03	163.03	169.15
131.87	104.60	76.53	165.93	169.72	123.72	141.77	161.64	169.10
73.97	4.57		19.18			1.10		4.96
1.82	1.82	1.36	2.58	2.32	1.49	2.44	2.28	2.60
2.14	1.89	1.34	2.66	2.32	1.44	2.43	2.26	2.77
								.48
							.25	.20
							.24	.22
								1.37
		5.15		4.59			8.50	1.37
		5.10		4.59			8.43	1.37
								.31
		.39		.14			.35	.07
		.39		.14			.34	.08
2.21							1.86	.74
2.20							1.84	.69

TABLE XXI.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Mumps—Continued.						
Noneffectiveness:						
Enlisted men	.03	.04	.02	.01		.07
Total	.03	.03	.02	.01		.07
Quinsy.						
Admissions:						
Enlisted men	.26	.30	.32		1.08	
Total	.25	.27	.32		1.07	
Noneffectiveness:						
Enlisted men	.006	.01	.01		.01	
Total	.01	.01	.01		.01	
Scarlet fever.						
Admissions:						
Enlisted men	.26	.30		.34	1.07	
Total	.25	.27		.34	1.07	
Noneffectiveness.						
Enlisted men	.02	.02	.01	.01	.09	
Total	.02	.02	.01	.01	.09	
Small-pox.						
Admissions:						
Enlisted men	.04	.07				
Total	.04	.07				
Noneffectiveness:						
Enlisted men	.004	.01				
Total	.004	.01				
Whooping cough.						
Admissions:						
Enlisted men	.22	.22	.32	.34		
Total	.21	.20	.32	.34		
Noneffectiveness:						
Enlisted men	.01	.02	.03	.01		
Total	.01	.02	.03	.01		
Erysipelas.						
Admissions:						
Officers	2.01	2.12				
Enlisted men	2.46	2.15	4.17	2.71	2.17	4.71
Total	2.43	2.14	4.13	2.70	2.15	4.63
Noneffectiveness:						
Officers	.11	.12				
Enlisted men	.10	.11	.15	.07	.18	.05
Total	.11	.11	.15	.07	.18	.04
Deaths:						
Enlisted men	.08	.14				
Total	.07	.12				
Other specific febrile and acute infectious diseases.						
Admissions:						
Officers	.67	.71				
Enlisted men	.04	.07				
Total	.08	.13				
Noneffectiveness:						
Officers	.02	.02				
Enlisted men	.001	.002				
Total	.002	.004				
Bronchitis.						
Admissions:						
Officers	80.43	75.73	200.00	333.33	125.00	142.86
Enlisted men	73.65	77.67	82.16	55.93	78.01	72.94
Total	74.07	77.49	83.28	57.34	78.41	74.07
Noneffectiveness:						
Officers	2.54	2.17	19.36	6.57	1.38	1.96
Enlisted men	1.37	1.39	1.56	.86	1.33	1.72
Total	1.44	1.47	1.73	.89	1.33	1.72
Discharges:						
Enlisted men	.24	.27		31		

diseases to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
.05							.04	.03
.05							.04	.03
							.27	.26
							.26	.24
							.002	.01
							.002	.01
							.27	.26
							.26	.24
							.01	.02
							.01	.02
							.27	
							.26	
							.03	
							.03	
							.27	.21
							.26	.20
							.02	.01
							.02	.01
								2. 5
2.21	4.29						1.86	2.58
2.20	4.18						1.84	2.54
								.11
.05	.04						.08	.11
.05	.03						.08	.11
							.25	.05
							.24	.04
								.68
							.27	
							.26	.05
								.02
							.01	
							.01	.001
								82.19
48.57	68.67	56.70	48.24	50.46	85.11	56.41	78.07	72.77
48.35	66.95	56.12	48.04	50.46	82.49	55.70	77.41	73.45
								2.59
2.01	2.36	1.13	.75	2.06	1.38	1.15	1.43	1.35
1.99	2.29	1.15	.75	2.05	1.36	1.14	1.43	1.44
2.04								.29

TABLE XXI.—*Showing the relation of certain specifiea*

Names of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Pulmonary phthisis.						
Admissions:						
Officers	1.34	1.42				
Enlisted men	3.39	3.40	4.91	2.03	3.25	2.35
Total	3.26	3.21	4.77	2.02	3.22	2.31
Noneffectiveness:						
Officers	.94	.99				
Enlisted men	.82	.76	1.36	.70	.45	.16
Total	.83	.78	1.35	.70	.45	.15
Deaths:						
Officers	.94	.99				
Enlisted men	.69	.69	1.19	.31	2.01	
Total	.71	.72	1.17	.31	1.98	
Discharges:						
Enlisted men	1.71	1.71	2.08	1.26	1.00	4.36
Pneumonia.						
Admissions:						
Officers	2.68	2.83				
Enlisted men	4.04	4.73	1.93	5.08	2.17	2.35
Total	3.96	4.55	1.91	5.06	2.15	2.31
Noneffectiveness:						
Officers	.28	.30				
Enlisted men	.41	.49	.20	.51	.26	.16
Total	.41	.47	.20	.51	.26	.15
Deaths:						
Enlisted men	.57	.48	.59	1.26		
Total	.52	.42	.59	1.25		
Pleuritis.						
Admissions:						
Officers	.67	.71				
Enlisted men	2.81	2.81	4.17	1.02	4.33	2.35
Total	2.68	2.61	4.13	1.01	4.30	2.31
Noneffectiveness:						
Officers	.59	.61				
Enlisted men	.16	.15	.09	.16	.19	.69
Total	.19	.19	.09	.15	.19	.68
Deaths:						
Enlisted men	.08	.14				
Total	.07	.12				
Discharges:						
Enlisted men	.12	.07		.31		2.18
Rheumatic fever.						
Admissions:						
Officers	2.68	2.83				
Enlisted men	5.54	6.14	3.56	5.42	4.33	4.71
Total	5.36	5.83	3.50	5.40	4.30	4.63
Noneffectiveness:						
Officers	.48	.51				
Enlisted men	.59	.63	.49	.61	.43	.78
Total	.58	.61	.49	.61	.43	.77
Deaths:						
Enlisted men	.005			.31		
Total	.004			.31		
Discharges:						
Enlisted men	.12	.14		.31		
Myalgia and muscular rheumatism.						
Admissions:						
Officers	55.63	54.49	133.33			
Enlisted men	53.60	53.41	54.56	55.93	48.75	65.88
Total	53.73	53.51	55.30	55.65	48.34	64.82
Noneffectiveness:						
Officers	2.04	2.02	4.84			
Enlisted men	1.83	1.80	2.09	2.07	1.08	1.72
Total	1.84	1.82	2.12	2.06	1.07	1.69
Discharges:						
Enlisted men	.98	1.03	.30	1.57		4.36

diseases to nativity and length of service—Continued.

Nativities.							Length of service—years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
								1.37
8.83	4.29				10.64		3.98	3.27
8.79	4.18				10.31		3.95	3.13
								.96
2.91	.52				.55		.65	.85
2.91	.50				.54		.64	.86
								.95
							.49	.73
							.49	.76
4.09	3.97						1.97	1.66
								2.74
	8.58			9.17			4.25	4.00
	8.37			9.17			4.21	3.91
								.29
	1.01			.48			.43	.41
	.98			.48			.43	.40
				4.24			.25	.63
				4.24			.24	.58
								.68
2.21	4.29		13.16				1.33	3.11
2.20	4.18		13.10				1.32	2.94
								.59
.21	.07		1.42				.11	.17
.21	.07		1.41				.10	.20
							.25	.05
							.24	.04
							.25	.10
								2.74
8.83	4.29	5.15		9.17		5.13	7.70	5.11
8.79	4.18	5.10		9.17		5.06	7.64	4.94
								.49
1.08	.14	.18		1.12		.21	.91	.53
1.08	.14	.18		1.12		.21	.91	.52
								005
								.004
							.25	.10
		500.00			333.33		31.25	56.16
48.57	25.75	30.93	52.63	77.98	42.55	56.43	37.44	56.81
48.35	25.10	35.71	52.40	77.98	51.55	55.70	37.39	56.76
		5.48			8.22		.94	2.06
2.81	.31	1.84	.80	1.60	.96	1.36	1.05	1.98
2.80	.30	1.87	.80	1.60	1.19	1.34	1.04	1.99
				4.24			.49	1.07

TABLE XXI.—*Showing the relation of certain specified*

Names of diseases, etc.	Total.	Nativities.				
		American U. S.	Irish.	German.	English.	Canadian.
Other rheumatism.						
Admissions:						
Officers	25.47	22.65	166.67	.....	125.00	.....
Enlisted men	24.01	23.89	30.49	25.42	13.00	16.47
Total	24.10	23.77	31.79	25.30	13.94	16.20
Noneffectiveness:						
Officers	2.78	2.08	29.60	.....	39.73	.....
Enlisted men	1.55	1.61	1.60	1.57	.74	1.33
Total	1.63	1.66	1.86	1.56	1.08	1.31
Discharges:						
Enlisted men	1.14	1.30	1.19	.94	.....	.....
Total rheumatism.						
Admissions:						
Officers	83.78	79.97	300.00	.....	125.00	.....
Enlisted men	83.15	83.44	88.57	86.77	66.09	87.06
Total	83.19	83.11	90.59	86.34	66.59	85.65
Noneffectiveness:						
Officers	5.30	4.61	34.43	.....	39.73	.....
Enlisted men	3.97	4.04	4.18	4.26	2.26	3.83
Total	4.05	4.10	4.47	4.23	2.58	3.77
Deaths:						
Enlisted men	.005	.....	.....	.31	.....	.....
Total	.004	.....	.....	.31	.....	.....
Discharges:						
Enlisted men	2.24	2.47	1.49	2.83	.....	4.36

diseases to nativity and length of service—Continued.

Nativities.							Length of service, years.	
Scandinavian.	Scotch.	Swiss.	Austrian.	Danish.	French.	All other.	Under 1.	1 and over.
								26.03
24.28	12.88	30.93	30.70	18.35		7.69	16.99	25.40
24.18	12.55	30.61	30.57	18.35		7.59	16.85	25.45
								2.84
1.90	.27	2.85	4.00	.55		.20	.96	1.67
1.89	.26	2.82	3.98	.55		.19	.95	1.75
			8.13				.74	1.22
		500.00			333.33		31.25	84.94
81.68	42.92	67.01	83.33	105.50	42.55	69.23	62.13	87.32
81.32	41.84	71.43	82.97	105.50	51.55	68.36	61.87	87.15
		5.48			8.22		.94	5.39
5.79	.72	4.87	4.81	3.27	.96	1.76	2.92	4.18
5.77	.70	4.88	4.79	3.27	1.19	1.74	2.90	4.26
								.005
								.004
			8.13	4.24			1.48	2.39

TABLE XXII.—*Showing the causes and ratios of rejections among* 19,926 *recruits examined during the year* 1890 (*white*, 18,437; *colored*, 1489).

Causes of rejection.	White.				Colored.				White and colored.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.
Malarial diseases	7	3	10	0.5	.....	1	1	0.7	7	4	11	0.6
Enthetic diseases	311	15	326	17.7	50	1	51	34.2	361	16	377	18.9
Dietic diseases	629	3	632	34.3	6	.....	6	4.0	635	3	638	32.0
Constitutional diseases	24	3	27	1.5	2	1	3	2.0	26	4	30	1.5
Developmental diseases	894	9	903	49.0	107	....	107	71.9	1,001	9	1,010	50.7
Parasitic diseases	18	....	18	1.0	....	....	.....	.....	18	....	18	.9
Nervous diseases	36	4	40	2.2	15	.....	15	10.1	51	4	55	2.8
Diseases of the eye	1,636	6	1,642	89.1	82	.....	82	55.1	1,718	6	1,724	86.5
Diseases of the ear	183	5	188	10.2	5	....	5	3.4	188	5	193	9.7
Diseases of the nose	6	6	12	0.7	....	....	.....	.....	6	6	12	0.6
Respiratory diseases	43	4	47	2.5	1	....	1	0.7	44	4	48	2.4
Diseases of the circulatory system	605	14	619	33.6	16	.....	16	10.7	621	14	635	31.9
Diseases of the digestive system	927	17	944	51.2	67	.....	67	45.0	994	17	1,011	50.7
Diseases of the lymphatic system	25	....	25	1.4	14	.....	14	9.4	39	.....	39	2.0
Diseases of the genito urinary system	690	21	711	38.6	31	.....	31	20.8	721	21	742	37.2
Diseases of the locomotor system	626	5	631	34.2	36	.....	36	24.2	662	5	667	33.5
Diseases of the integumentary system	160	6	166	9.0	8	.....	8	5.4	168	6	174	8.7
Results of injuries	146	4	150	8.1	14	1	15	10.1	160	5	165	8.3
Over age	193	.....	193	10.5	11	.....	11	7.4	204	.....	204	10.2
Under age	621	.....	621	33.7	87	.....	87	58.4	708	....	708	35.5
Over height	68	....	68	3.7	13	.....	13	8.7	81	....	81	4.1
Under height	328	....	328	17.8	44	.....	44	29.6	372	....	372	18.7
Over weight	87	.....	87	4.7	10	.....	10	6.7	97	.....	97	4.9
Under weight	524	.....	524	28.4	30	....	30	20.1	554	....	554	27.8
Under size	204	.....	204	11.1	8	....	8	5.4	212	....	212	10.6
Obesity	4	....	4	0.2	.....	.....	.....	.....	4	....	4	0.2
Illiterate	5	....	5	0.3	1	.....	1	0.7	6	.....	6	0.3
Imperfect knowledge of English	335	.....	335	18.2	2	....	2	1.3	337	.....	337	16.9
Moral depravity	125	....	125	6.8	22	....	22	14.8	147	.....	147	7.4
Character bad and doubtful	116	....	116	6.3	18	....	18	12.1	134	.....	134	6.7
Deserters and ex-convicts	23	.....	23	1.2	3	.....	3	2.0	26	.....	26	1.3
Discharged for disability and by order	8	9	17	0.9	....	1	1	0.7	8	10	18	0.9
Married, or having dependent relatives	237	....	237	12.9	47	....	47	31.6	284	....	284	14.3
Declined	165	.....	165	8.9	13	.....	13	8.7	178	.....	178	8.9
General unfitness and unclassified	2,034	2	2,036	110.4	188	....	188	126.3	2,222	2	2,224	111.6
Aggregate	12,043	136	12,179	660.6	951	5	956	642.0	12,994	141	13,135	659.2

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